Wednesday, July 29, 1925. Vol. LXII. No. 1595.

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal."

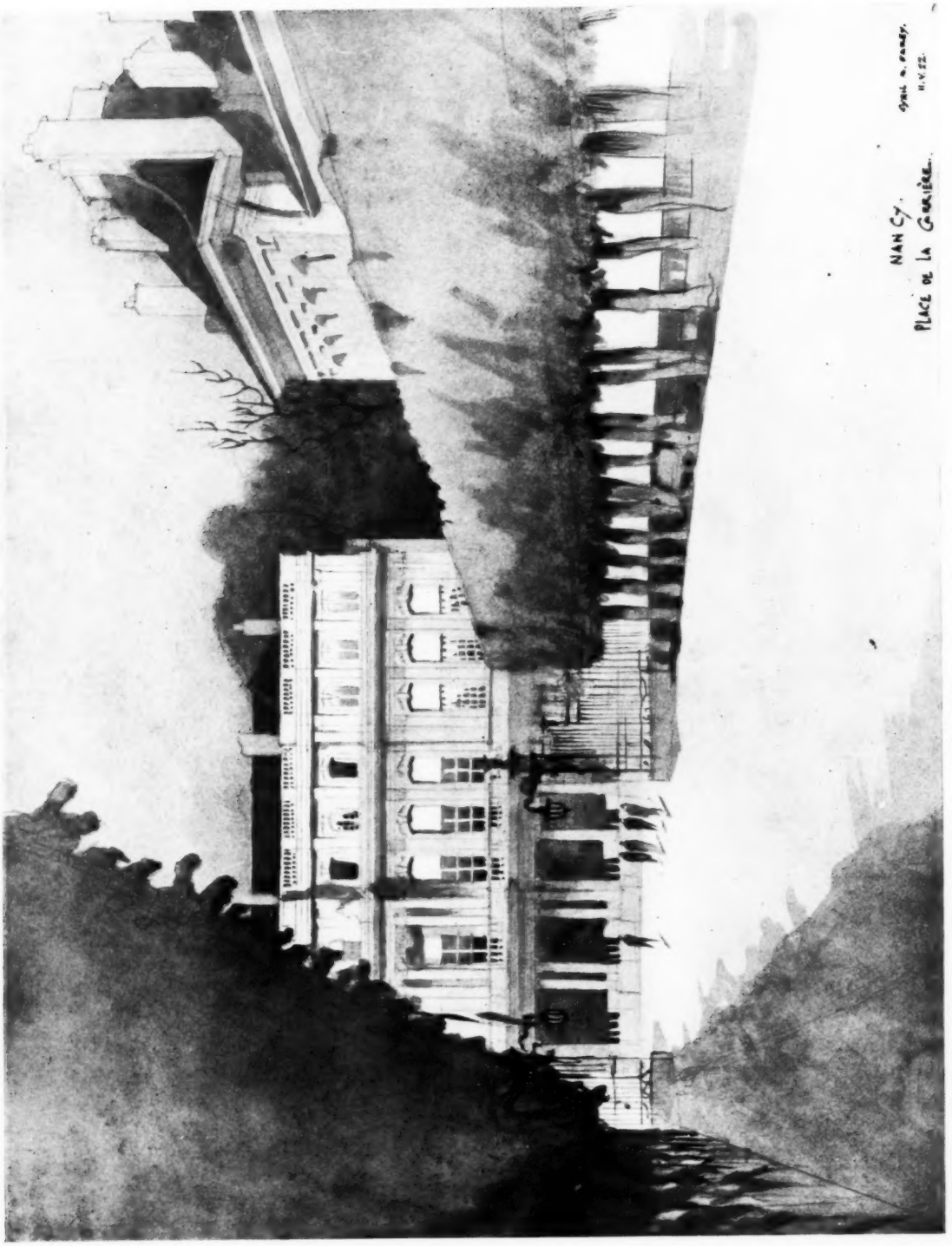
FROM AN ARCHITECT'S NOTEBOOK.

Baudelaire describes how he dismissed a glass-vendor because he had no coloured glasses—"glasses of rose and crimson, magical glasses, glasses of Paradise"—and, stepping out on to his balcony, threw a flower-pot down on the tray of glasses as soon as the man issued into the street below, shouting down furiously, "The Life Beautiful! The Life Beautiful!"

W. N. P. Barbellion,
"The Journal of a Disappointed Man."

9 Queen Anne's Gate, Westminster.

Nancy: Place de la Carrière



(*From a Water-colour by Cyril A. Farey.*)

THE

ARCHITECTS' JOURNAL

9 Queen Anne's Gate, Westminster.

Wednesday, July 29, 1925. Volume LXII. No. 1595.

Industrialism and Beauty

"IS modern industry incompatible with beauty?" This was a question asked by Sir Theodore Morison in his address at the inaugural meeting of the British Architects' Conference at Newcastle-upon-Tyne, and it is one that is particularly pertinent at the present time, because it would almost seem as if, despite all our efforts, we are unable to bring beauty intimately into our lives.

If we reflect only upon architecture, we are certainly led to conclude that there is indeed something inimical between industrialism and fine architecture. The evidence is immense. In the first place, those countries which are immune from industrialism produce finer buildings and finer cities. France has never become industrialized, and still remains primarily an agricultural nation, and the arts are regarded, not as adjuncts to life, but as an integral part of it. Just now we are hearing about modern Scandinavian architecture, and we are seeing many illustrations of it, all of which tend to confirm the theory. In the second place ugliness is always paramount in those very spots in which industrialism is most powerful.

Sir Theodore Morison is magnanimous, for he said, in the course of his address, that for the want of beauty in our main thoroughfares the public must bear the greater part of the blame. It is, however, only within limits that this generous statement can be accepted. There is constant action and interaction between architects and the public, yet both are victims of a system for the existence of which both must accept responsibility. The question is, now that we are conscious—or let us say some of us are conscious—of the defects, can we remedy them, or are we hopelessly enmeshed in a diabolical system from which we ourselves are unable to effect an escape?

Sir Theodore Morison dealt with only two aspects of the disease from which modern towns suffer: the lack of harmony in our important thoroughfares, and the mutilation of buildings by advertisements, both at night and by day. These are both matters to which we have frequently referred in these pages, but to which we are ever willing to return, hoping that the hammer-blow of reiteration may at last effect some good.

In contrast to the chaos of our modern industrial towns the "quiet dignity" of Bath, and the "stateliness" of Edinburgh, are mentioned, and, until recently, we might have added the grave urbanity of Regent Street to the list. but the fact remains that all these were built prior to the wave of industrialism which swept the country. Since that event there has not been built an important commercial thoroughfare in which is to be found consistent dignity, urbanity, or beauty. On the contrary, if the whole world were searched it would be doubtful if it would reveal, in the midst of an opulent shopping centre, anything more utterly depressing, more unspeakably hideous, more visually appalling than that apotheosis of ugliness—the junction of Oxford Street and Tottenham Court Road. What can be done? Sir Theodore Morison seems to think that the shop-owners themselves should be approached; that they should be educated rather than that control should be exercised by the central or local government. This does not, however, seem to us to be a matter of much importance. Whatever action is taken, it must have behind it the consent and approval of the people as a whole. It is the users of the street—the consumers, as the economists would say—that must insist; and whether they say to the shopkeepers in effect, "We will not use your shops until you make certain reforms," or whether they bring pressure to bear upon their elected representatives, in council or Parliament, to stop what they at least realize to be both a menace and a nuisance, is immaterial. Perhaps if psychologists and industrial-fatigue experts would point out how much fatigue, lassitude, and discontent are engendered by ugliness, they might induce the ordinary person to take action in the matter, and to insist that his streets be harmonious and beautiful. The lost opportunity of Regent Street is a national calamity, for such opportunities are rare, but the blame cannot be laid to architects or shopkeepers. The nation gets the architects and the shopkeepers that it deserves, and nothing is more fallacious than the notion that these things are imposed externally. It is so easy and such a comfort to say, "If only we had better architects or different shopkeepers things would be better and different"; but unfortunately the responsibility must be shouldered collectively, just as the effort towards improvement must be made collectively. And this brings us back to our opening question: "Is a nation whose activities are on the whole industrial, a nation which has given herself over to industrialism, and all that it stands for, either capable of, or willing to, make the effort necessary to bring back beauty into daily life?"

After all, it is mostly a question of values. We place industrialism high in the scale, and beauty low. If there be no absolute values, then one sequence is as good as another; but for many of us there still lingers a conviction that to aspire towards Truth, Goodness, and Beauty is still worth while, and that, whatever the purpose of life here on earth, therein lies its fulfilment.

Improvement, we think, therefore, lies in our own hands. We must, one and all, by our actions, our words, our conduct, and our influence, endeavour to bring about a revaluation, and in the measure of our success is to be found the answer to our question. Fortunately, there are signs

(From a Water-colour by Cyril A. Farey.)

that many are striving for the same end, not least amongst which is Sir Theodore Morison's address. We want ever more and more people quietly and persuasively putting forward just the same point of view. In this way we still hope that ultimately the big thoroughfares of our towns may become "a pleasure to walk in, and a joy to behold." For this, after all, is the wholly reasonable ambition which we have in mind. It is not an academic matter as to whether we adopt this or that material, design in this or that style—matters about which taste and opinion may ever vary—but whether we are to have seemliness, decency, tidiness, and orderliness as a background to our lives; or whether, on the other hand, we are to maintain squalor, ugliness, turmoil, and muddle. Are the first incompatible with industrialism? The answer rests with each one of us.

Lord Curzon's Munificent Bequests

Bodiam Castle, which, as well as Tattershall Castle, Lord Curzon of Kedleston has bequeathed to the nation, is a most interesting example of fourteenth-century design. Its present fine state of preservation is, of course, an additional debt we owe to Lord Curzon, who has been solicitous that both Bodiam and Tattershall castles should be as free as possible from liabilities to expense when taken over by the National Trust for Places of Historic Interest or Natural Beauty. Visiting Bodiam a few days ago, one could not help feeling how fully it qualifies under both heads. Lord Curzon went to great expense to have it thoroughly and accurately restored, and its deep moat, fed by the engaging little river Rother, is bedecked with a profusion of beautiful waterlilies. To complete the poetry of it, there should be, as there is on the equally beautiful moat at Eltham, and as there was on Wordsworth's "still St. Mary's Lake," a graceful glider to "float double, swan and shadow!" Then "that were Paradise enow."

Noble Buildings a Spiritual Heritage

Lord Curzon's gifts are not more noble than the spirit in which they were made. The words in which he bequeaths them are worth cherishing. They are these: "Convinced that beautiful and ancient buildings which recall the life and customs of the past are not only historical documents of extreme value, but are a part of the spiritual and æsthetic heritage of a nation, imbuing it with reverence and educating its taste, I bequeath for the benefit of the nation certain properties which I have acquired for the express purpose of preserving the historic buildings upon them." His desire that Tattershall in Lincolnshire and Bodiam in Sussex shall be open to the public for all time is coupled with the wise advice that visitors should pay a small fee for admission. This condition should serve the double purpose of providing sufficient funds for the upkeep of the buildings and grounds, and—what is equally important—of keeping away those persons who seem constitutionally unable to value a privilege for which there is nothing to pay. What is worth paying to enjoy is worthy of protection. No doubt Lord Curzon, in the plenitude of his practical wisdom and statesmanlike astuteness, had considered this psychological aspect of the question.

The Picnic Litter Nuisance

Cissbury Hill, in the delectable county of Sussex, having been given to the public, should by them be jealously protected from desecration by the picnic parties who will now frequent it in crowds, carrying with them their "visible means of subsistence," and, unless vigilantly prevented, defiling the scene with greasy paper and broken bottles. That is the common fate of rural loveliness "thrown open to the public," and, frankly, we have but little belief in the efficacy of the moral suasion which Sir Robert Baden-Powell suggests as a preventive. Truly the nation has every reason to be grateful for the marvels the great Chief Scout has wrought among its youth; but the mischief is done by persons who are so unfortunate as to be outside his sphere of influence. Nor is the trouble of entirely native growth; for foreigners are apt to leave behind them more permanent records of their visits; inscribing names or initials on trees, doors, walls, cliffs, turf, seats—on anything, in fact, that a sharp penknife can cut and disfigure. We quite agree with those newspaper correspondents who contend for the sharp remedy of a deterrent penalty. Nevertheless, it is good that Sir Robert Baden-Powell is so keenly interested in the subject. His splendid little army can do anything short of working miracles, and are among the most beneficent moral forces in existence. May he organize them effectually in the excellent cause of tidiness, so that they may make universal the observance of their excellent motto: "Always leave two things behind when quitting your camp ground—(1) Nothing; (2) Your thanks." This, compressed into tabloid form, is the whole duty of picnickers, park-users, and campers-out. One would rather they performed it voluntarily, but the power of compulsion should be held in reserve, ready for exercise on due occasion.

Building Contractor for the Law Courts

George Edmund Street, architect of the Royal Courts of Justice, having been dead these many years, it was surprising to hear that one of the firm of building contractors for that stupendous building survived until a few days ago. He was Mr. Edward Charles Bull, of the firm of Joseph Bull and Sons, of Southampton. When he died—on July 15 of the current year—he had reached his eighty-fifth year; whereas Street, with vital energies exhausted through overwork and over-worry, had barely attained the age of sixty, dying in 1881, a year before his great building was completed, and that, alas! by other hands. Clearly Mr. Bull could not have suffered as Street did from the worry of building the Law Courts. It is a commonplace saying that "great buildings kill their architects," and Elmes, Street, and Bentley are cited to confirm it. Many instances to the contrary could be adduced. No doubt some supersensitive natures, like those of the great architects named, render their possessors extraordinarily susceptible to the malignant effects of worry, and unpromising candidates for longevity. Yet consider the outstanding example of Sir Christopher Wren. For thirty years he had worries enough over the building of St. Paul's. Yet he lived to be ninety-and-one! It is a question of temperament and toughness of fibre.

The R.I.B.A. Joint Committee's Report on Overcrowding the Profession

As we go to press we are in receipt of the report of the R.I.B.A. joint committee appointed to investigate the question of overcrowding in the profession of architecture. Briefly stated, the committee's main conclusions are: That the numbers of architects are increasing more rapidly than prospective clients; and that steps should be taken to make the fact public, and especially to get into touch with schools—art schools, polytechnics, and the like—schools, in fact, other than the recognized schools of architecture, so that those responsible for conducting them shall become better acquainted with the conditions—in the language of the report, "to warn" the profession and the public of a rather diquieting state of affairs, "and to ensure that the training given to students wishing to become architects is thoroughly adequate." Coupled with a note of implied regret that in some districts where the pupilage system still survives, there is inadequate attendance by such pupils at the authentic schools of architecture, there is denial that the schools of architecture cause overcrowding in the profession. It is argued that, on the contrary, those schools, by insisting on the necessity for long and arduous training, tend to eliminate those who are unwilling to undergo it. We shall deal further in a future issue with the committee's investigations and report.

Architectural Style—8

By A. TRYSTAN EDWARDS, M.A., A.R.I.B.A.

Punctuation and Inflection—(*continued*)

THE grammar of design does not provide an easy method of architectural composition; it is rather the means of putting before us an ideal. We cannot possibly inflect each part of a building to make it take account of every other part. Certain works of architecture have been described as so perfectly designed that no single element in them could be changed without destroying their harmony. But this is an hyperbole of speech. It is not given to a building to attain to such vitality as that. We must be more moderate in our demands. If we achieve even a little inflection, we have done much. The following diagrams will have fulfilled their object if they prove that when a measure of inflection is indeed exemplified in a building, the result is good and satisfying, and when inflection is conspicuously absent there is a blemish which surely militates against our pleasure in the design. Inflection will thus be shown to be something good in itself, and with this knowledge the artist may engage upon the difficult and fascinating task of applying the principle to the design of his building, in the confidence that the process will result in a measure of formal beauty which is quite independent of the "style" of architecture in which he happens to be working.

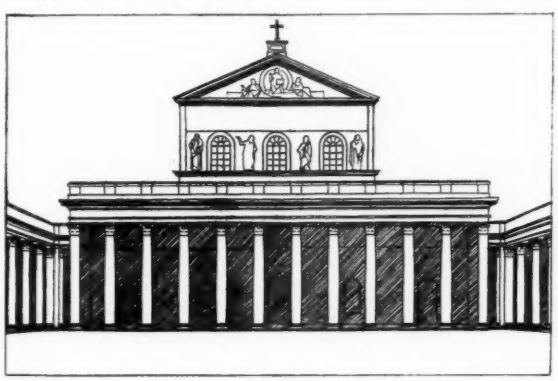


FIGURE XXVII.

Fig. XXVII shows how two elements in a building, themselves highly developed, may yet clash, for the simple reason that one of them has not taken sufficient account of the other. The colonnade is not inflected to express its connection with the attic storey above, but continues on its course just as if it has no consciousness whatsoever of the important fact that over its centre portion was a very prominent architectural feature. If the columns had been coupled at the joints immediately below the lateral extremities of the attic, or, better still, if there had been a slight projection in the colonnade corresponding with and emphasizing the position of the attic, the requisite inflection would have been attained.

In Fig. XXVIII the façade above the ground floor is inflected to take account of the recessed entrance by a broadening of the intervals between the windows immediately over this feature. The diagram in Fig. XXIX, however, shows that this inflection would scarcely have been sufficient unless the ground floor story had been given an emphatic punctuation, preserving the recessed entrance from too intimate an association with the fenestration above, and unless also this entrance had been rendered less conspicuous by means of the two pairs of pilasters at either side which support the free columns of the portico, and tend to give the lower part of the façade a measure of homogeneity.

In Fig. XXX (F) the doorway seems to be an afterthought,

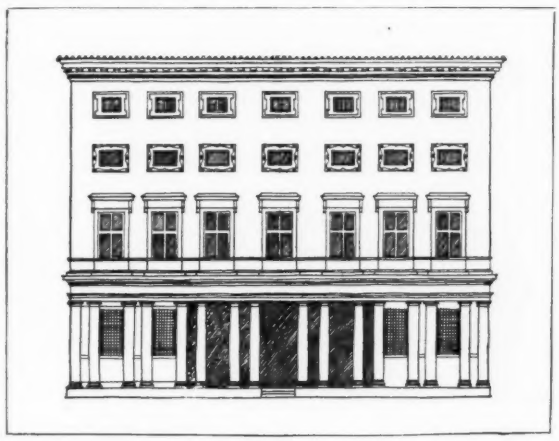


FIGURE XXVIII.

for the façade without this feature shows complete symmetry. Here again, however, the string-course, which punctuates the ground floor story and thus to a certain degree separates the doorway from the wallage above, slightly mitigates the offence of the latter in failing to inflect itself to take account of the doorway. In Fig. XXX (D) the doorway is again an element of discord in the design, for it is too prominent a feature to be ignored by the fenestration above, while the bay window is also too prominent to be ignored by the doorway. The degree of inflection is determined by the relative importance of the parts affected by it. For instance, in Example XXX (A) the hexastyle temple form receives a very surly treatment from the basement, which not only equals it in height and thus produces an unresolved duality, but quite insufficiently inflects itself to take cognizance of its distinguished burden. The two doorways do indeed leave a blank wall immediately under the temple, but there ought also to have been a recess or projection allowing the cornice of the basement to bend itself opposite the lateral extremities of the hexastyle front. Again, the symmetry of the main part of the composition altogether ignores the tower, which itself fails to inflect itself to acknowledge the existence of the temple. In Fig. XXX (B) it is not the tower which is at fault but the main façade, which seems too homogeneous—that is to say, it is not sufficiently inflected to take account of the great cupola over its central portion: the projection is extremely slight, while the fenestration of the tower is a replica of that

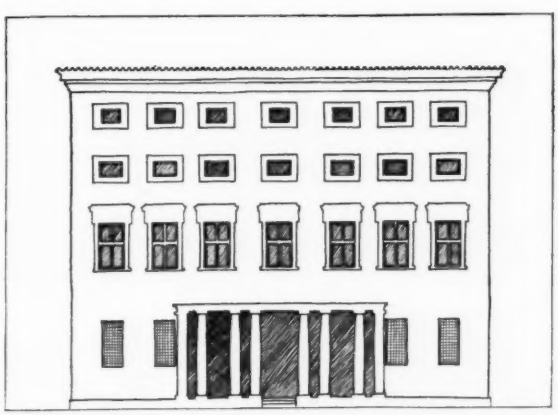


FIGURE XXIX

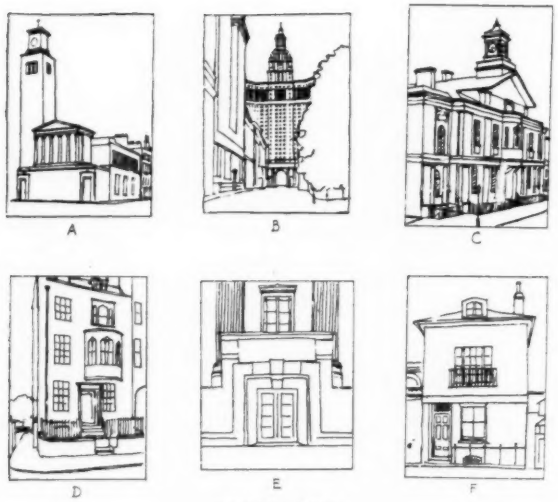


FIGURE XXX

FIGURE XXXI.

on each side of it. The result is that one can scarcely help entertaining the wish to break off the cupola, for this feature seems a surprise for which the main façade has not prepared us. In XXX (C) the cornice sweeps past the extremities of the prominent gable, which also seems insufficiently connected with the storys below, while in (E) a doorway breaks into a long row of classic columns, entirely uninflected to receive it, and so has the characteristic of an afterthought.

In Fig. XXXI, not only is the façade beautifully punctuated, but it is also inflected to take account of the prominent central feature. Between this, however, and the doorway, there is perhaps too close a resemblance and we have a duality of interest.

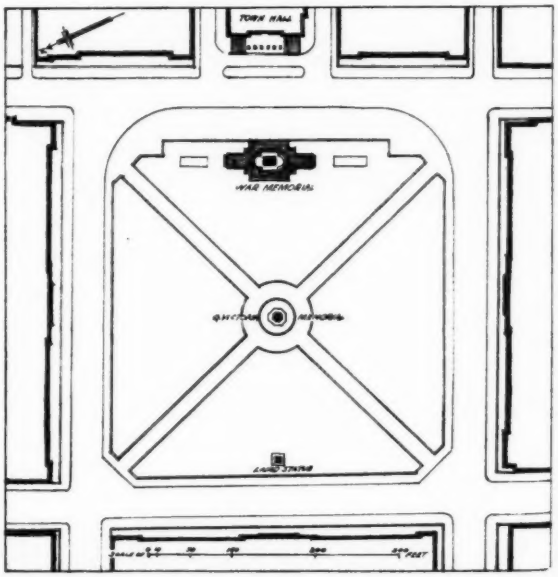
(To be continued.)

The Birkenhead War Memorial

LIONEL B. BUDDEN, M.A., A.R.I.B.A., Architect

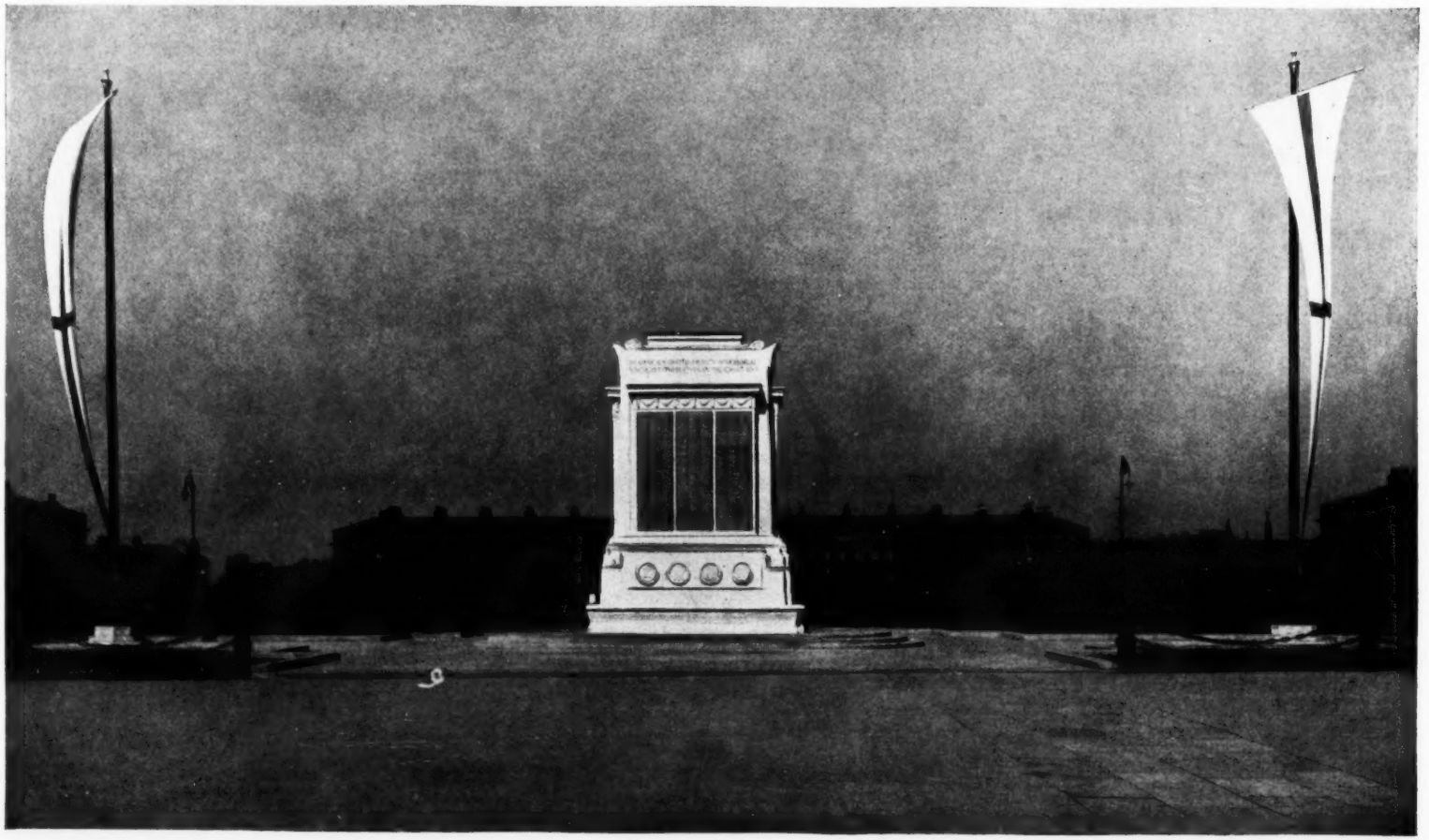
THIS memorial occupies a site, in Hamilton Square, directly facing the Town Hall, presented and prepared for the purpose by the Town Council of Birkenhead. It consists of a simple rectangular cenotaph, flanked by flagstaffs, and set upon a paved plateau. The main body of the central monument, 25 ft. high, is built of Portland stone. On its longer sides, above a strongly moulded base, are applied panels of green Westmorland stone bearing the names of one thousand two hundred and ninety-three Birkenhead men who fell in the war. On each of the two shorter sides, a female mourning figure carved in relief in green Westmorland stone is enclosed within an architectural frame. In one case the figure holds a replica of the Next-of-Kin Medallion, in the other a wreath of immortelles and a palm branch. Surmounting both the name and figure panels is a frieze protected by a cornice, the frieze being decorated with carved festoons of laurel. A band of laurel leaves also enriches the base mouldings under the panels. Below the panels on each of these two fronts the four shields of the British Empire in the war, the Royal Navy, Army, Royal Air Force, and Merchant Service, are represented by symbolic crests mounted on circular plaques. The Civic Arms of Birkenhead are embossed upon oval escutcheons above the figure panels, and below the latter the dates 1914-1919 are incised. A sarcophagus form is given to the top on the cenotaph, which has a capping of green Westmorland stone. The base of the whole is raised upon three broad steps that afford a place on which wreaths and floral tributes may be laid. Finally, the two flagstaffs flanking the monument on the north-east and south-west sides respectively have been conceived as features complementary to the central mass; their height is 45 ft. The cast metal base of each rests on Portland stone steps, and is decorated with festoons of immortelles, the shafts are painted orange vermilion, and the finials are gilded. A pendant bearing the Cross of St. George will be flown from each flagstaff.

Mr. G. H. Tyson Smith, of Liverpool, is responsible for the sculpture of the figure panels, for carrying out all carving and lettering on the cenotaph and for the modelling of the flagstaff bases. The building contract was entrusted to Mr. Joseph Davies, Birkenhead, Messrs. H. A. Clegg and Sons, Chester, being sub-contractors for the masonry, and the Liverpool Artificial Stone Company, Ltd., for the steps and plateau. The flagstaffs were supplied and fixed at cost price by Messrs. A. Rutherford & Co., Ltd.



War Memorials. 54.—Birkenhead War Memorial

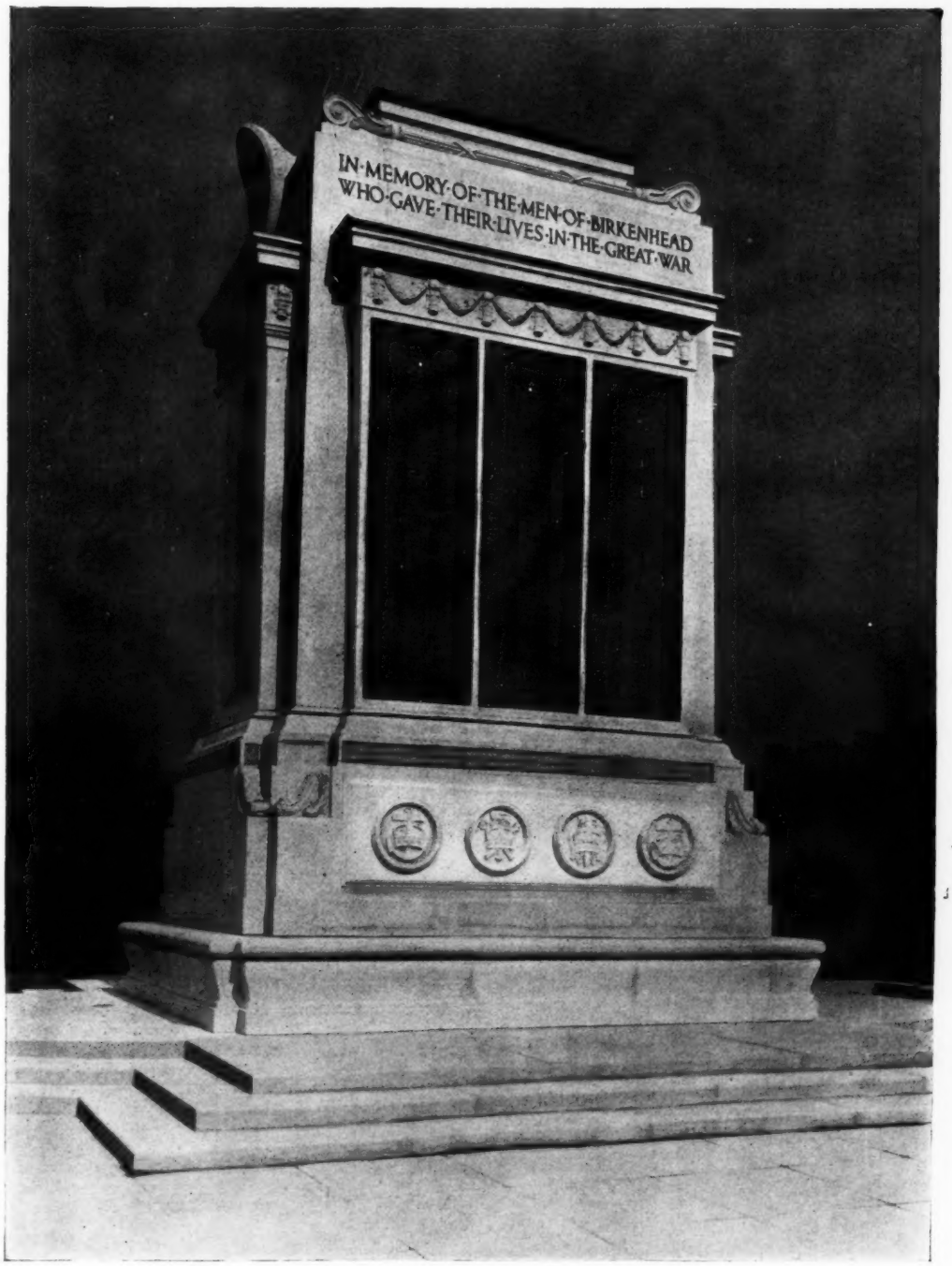
Lionel B. Budden, A.R.I.B.A., Architect



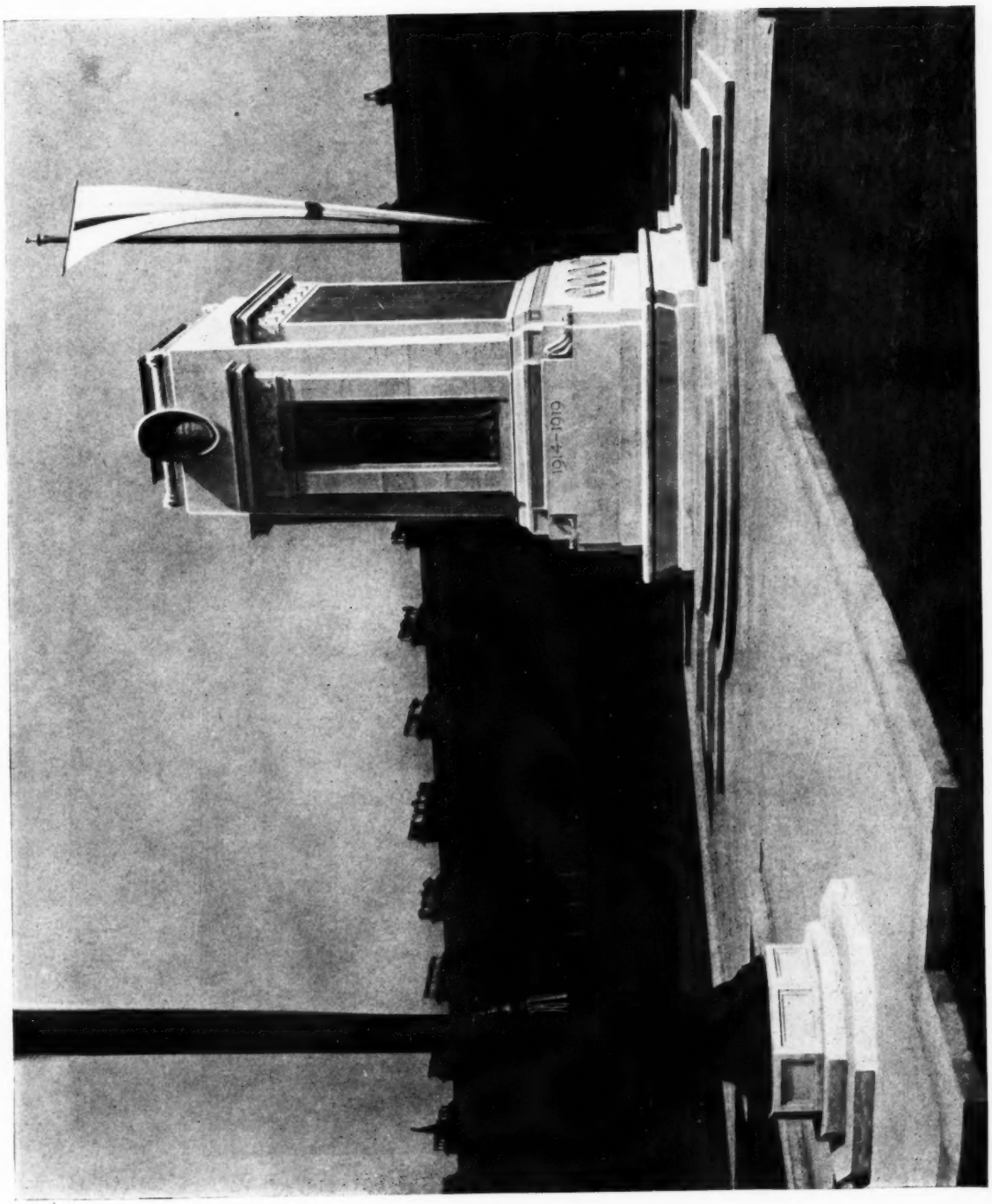
General View looking North-west from the Town Hall Steps.

War Memorials. 55.—Birkenhead War Memorial

Lionel B. Budden, A.R.I.B.A., Architect

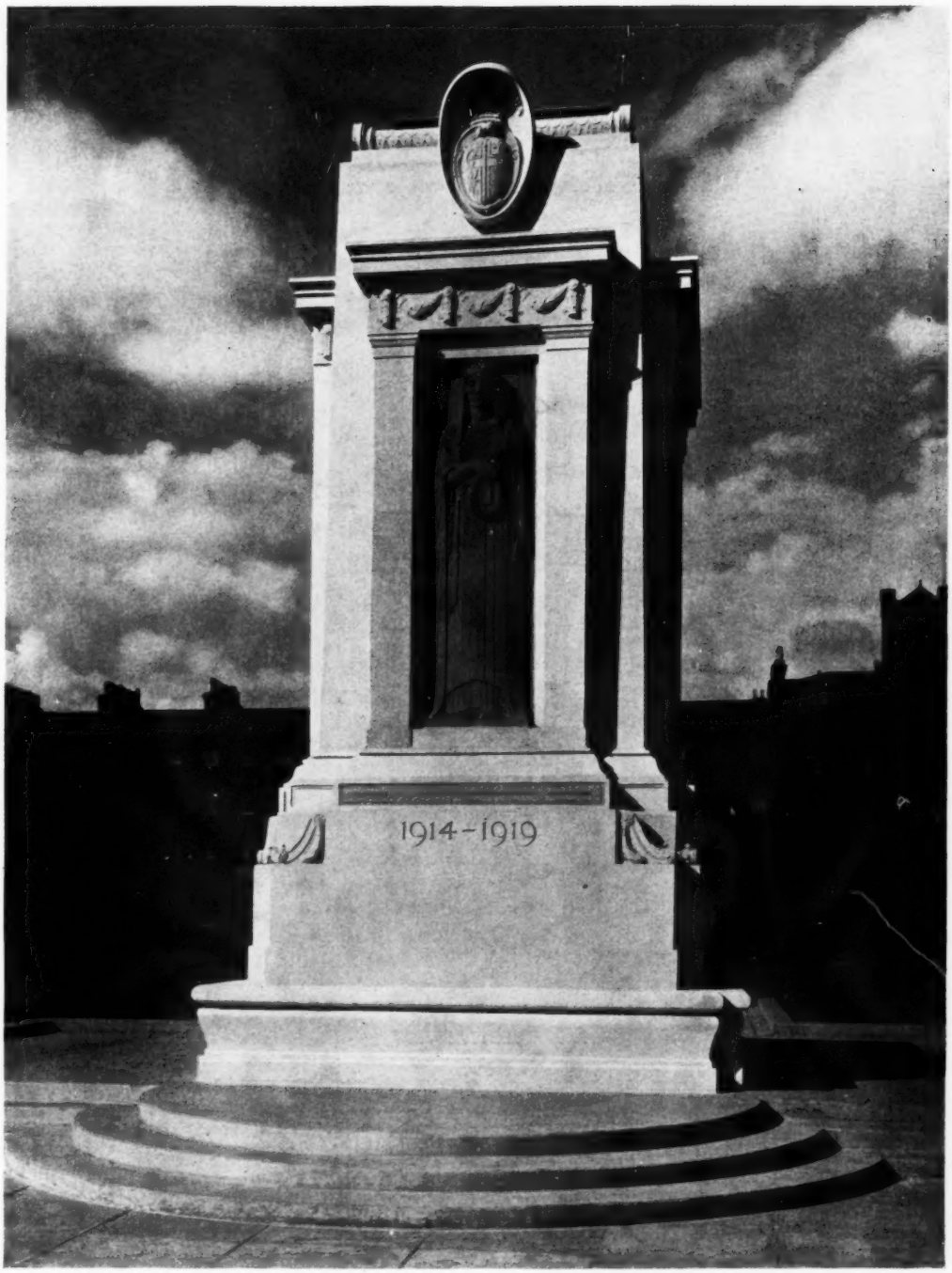


The view shows the elevation of the Memorial facing the Town Hall.



BIRKENHEAD WAR MEMORIAL: GENERAL VIEW SHOWING PLATEAU AND DETAIL OF FLAGSTAFF BASE.
LIONEL B. BUDDEN, A.R.I.B.A., ARCHITECT.

BIRKENHEAD WAR MEMORIAL: DETAIL OF NORTH-EAST ELEVATION
LIONEL B. BUDDEN, A.R.I.B.A., ARCHITECT.
J. H TYSON SMITH, SCULPTOR



BIRKENHEAD WAR MEMORIAL: DETAIL OF SOUTH-WEST ELEVATION.
LIONEL B. BUDDEN, A.R.I.B.A., ARCHITECT
J. H. TYSON-SMITH, SCULPTOR.

The New Church of St. John, Rochdale, Lancs.

E. BOWER NORRIS, A.R.I.B.A., Architect

THIS church is situated on the main square directly opposite Rochdale Station. The site is bounded on three sides by main roads, and demanded a building of more than usual dimensions and character. For this reason the architects adopted the domed church of Byzantine detail, which is simple in character and massive in scale. As an example of modern church building, its construction presents many interesting features. The building generally is framed up as a monolithic concrete structure, the whole weight of which is supported by huge foundations at the four points under the pendentives.

The reinforced concrete dome and the barrel vaults over the transept arms are erected in one single slab of concrete, reduced to 5 in. thick at the crown. Owing to the excellence of the concrete work, it was found unnecessary to use a covering of asphalt or copper. The severe weather successfully withstood by the building since this portion of the contract was completed, has amply justified the recommendation of the architect and consulting engineer. The reinforced concrete framework is encased both internally and externally with brickwork. This, beyond acting as a stiffener to the reinforced concrete stanchions and the cross-ties, has nothing to do with the structural stability of the building.

Owing to lack of funds it was not found possible to erect the campanile which was designed for the building. It is hoped, however, that this work will be put in hand in the near future in order to complete the architectural group. For the same reason all internal finishings had to be omitted. As it stands to-day the interior is left prepared for the reception of mosaics in the dome and the marble linings to the walls, etc., but the simple proportions and the massive lines of the barrel vaults and dome give it a most interesting and impressive effect. A large baldachino was also designed over the altar, but this is omitted until the money is forthcoming. The fixtures shown in the illustration are from the old church, and have been temporarily refixed.

The lighting of the interior is effected by three large five-light windows in the three-transept arm. These, together with the small lights in the base of the dome, give a very beautiful diffused light.

The dome is 68 ft. in diameter and 95 ft. high. The church will accommodate nominally 900 people, but owing to the generous space allowed in the aisles it is estimated that accommodation could be found for about 1,200 people. The total cost of the building is just over £20,000, which represents a very low cost per cubic foot.

A PERSPECTIVE VIEW

The architect responsible for the design and erection of the church was Mr. E. Bower Norris, A.R.I.B.A., of the firm of Hill, Sandy, and Norris, F. and A.R.I.B.A., of Manchester.

Professor Arch. C. Dickie, of Manchester University School of Architecture, recently made the following interesting comments on the building: "St. John's, Rochdale, is one of several churches by the same hand in which the style is aptly chosen both by reason of its historical fitness and by the readiness with which its constructional need is met by the most modern method. A simple dome with expanded pendentives spreading over a large and abundantly lighted floor area awaits the overlay with which it may some day be adorned, while externally the masses pile up in a pleasing group. The wonder which the great Church of St. Sophia excited in the mind of the beholder, so graphically told by Procopius, was not only that of the æsthete, it was largely evoked by marvel at the uncanny constructional skill by which its mighty domes were kept in equilibrium. Then it was a marvellous achievement, now reinforced concrete makes the vaulted and domed covering of great undisturbed areas a simple matter, and the altogether logical motifs of Byzantine art are as appropriate now as in their own day. Mr. Norris has handled his problem with success, and it is a matter of personal satisfaction that the lead so promptly given by Bentley should be perpetuated by an old student of Manchester School of Architecture."

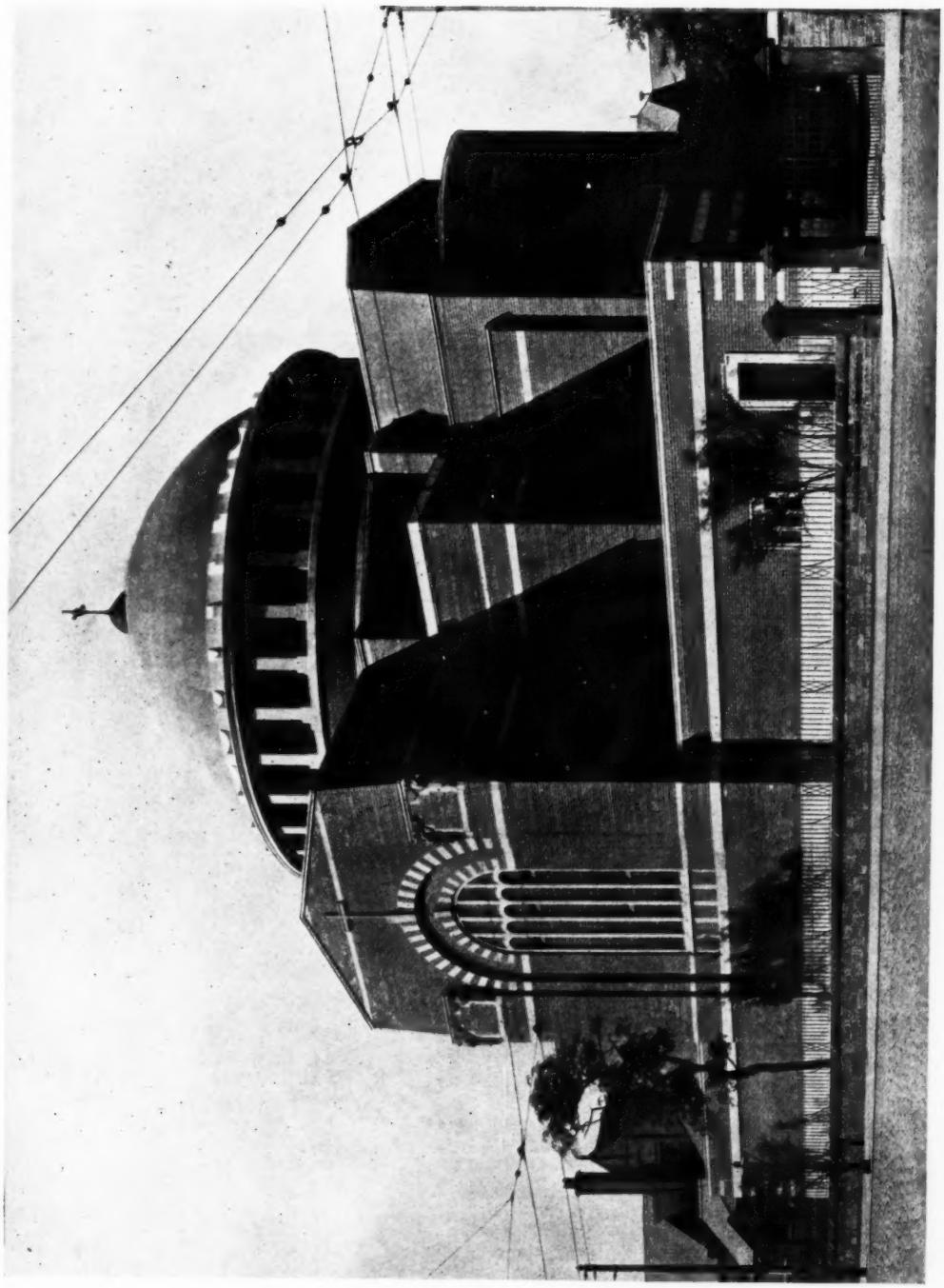
His Eminence Cardinal Bourne performed the opening ceremony. He said that the new church would take its place among notable churches of the country, and had added, not only to the ecclesiastical places of the Salford diocese, but had given to Rochdale a building not unworthy to rank with the great architectural achievements that had already distinguished that town.

Mr. G. Burnard Geen, A.M.Inst.C.E., of London, acted as consulting engineer for the reinforced concrete work.

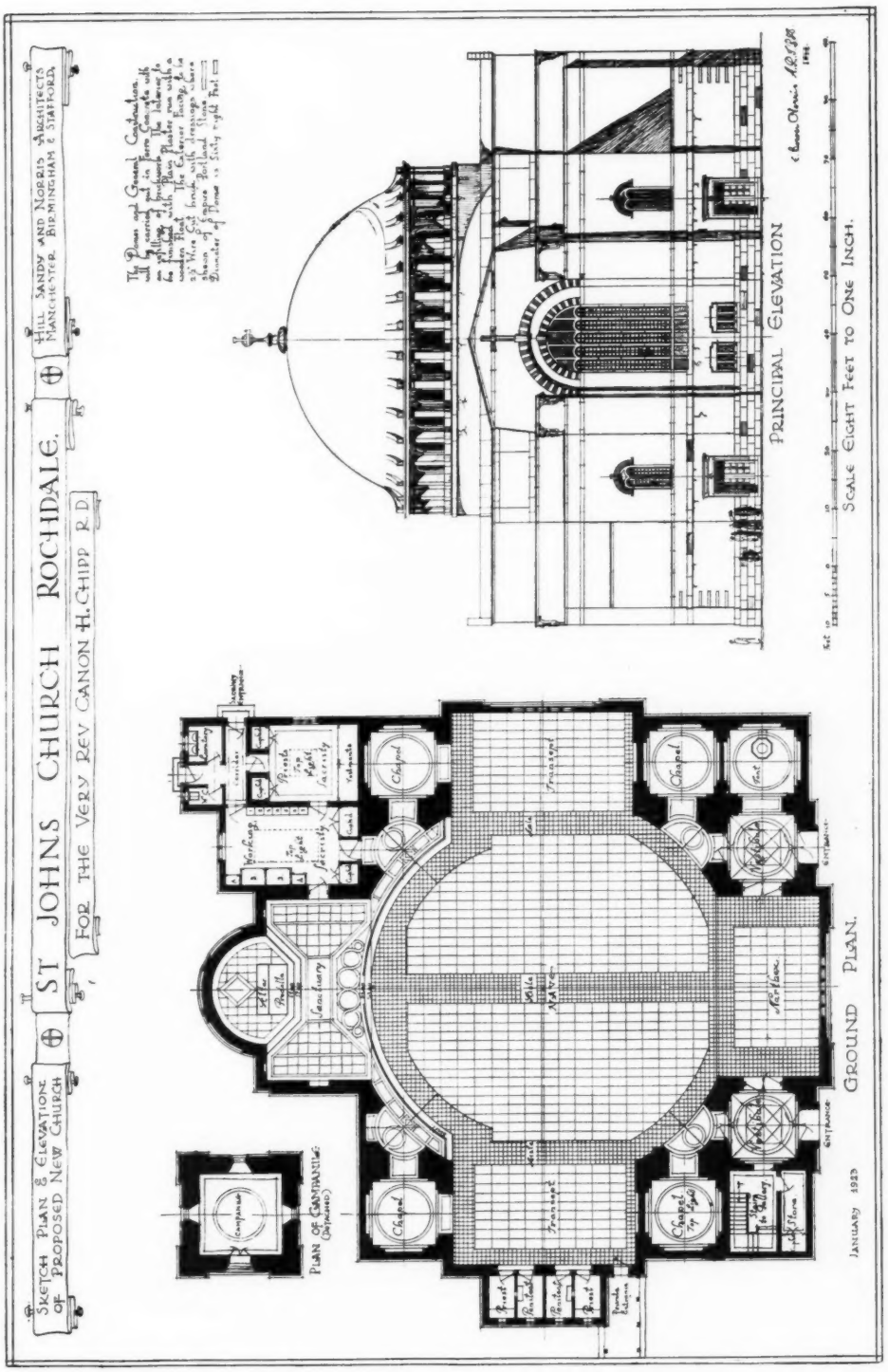
The whole of the foundations and reinforced concrete construction and stone facings were carried out by the Empire Stone Co., Ltd. The general contractors for the whole work were Messrs. R. and T. Howarth, of Rochdale, and the sub-contractors were as follows: Couzens and Akers, Birmingham (heating); H. Pratt, Ltd., Birmingham (electric lighting); Jos. F. Ebner, London (woodblock floors of British Columbian pine); J. H. Walker, Ltd., of West Bromwich (leaded lights and stained glass windows).

Church of St. John the Divine, Rochdale : View from South-East

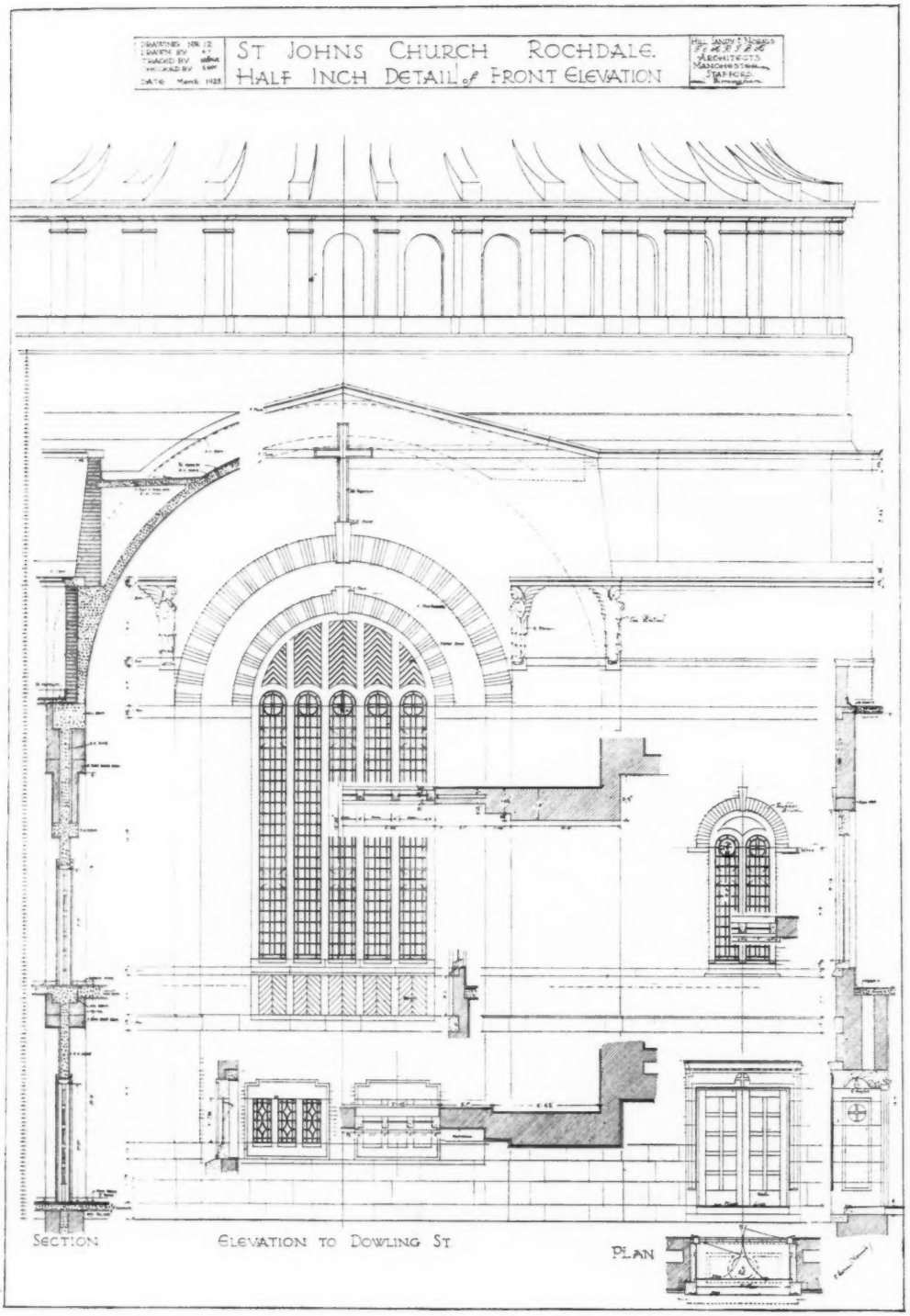
E. Bower Norris, A.R.I.B.A., Architect



Owing to lack of funds it was not found possible to erect the campanile which was designed for the building and is shown in the perspective sketch on the facing page.



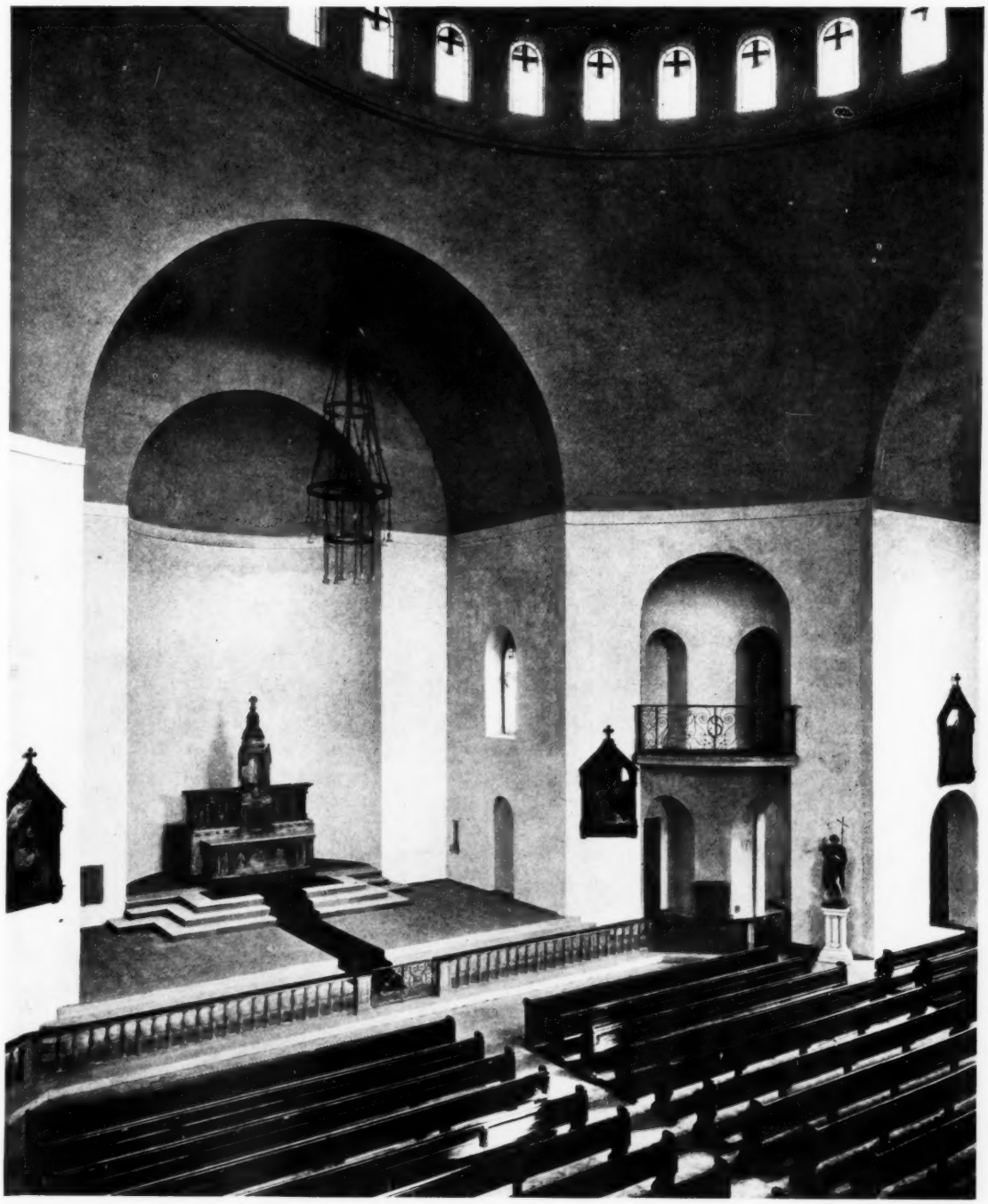
CHURCH OF ST JOHN THE DIVINE, ROCHDALE. E. BOWER NORRIS, A.R.I.B.A., ARCHITECT.



CHURCH OF ST. JOHN THE DIVINE, ROCHDALE. E. BOWER NORRIS, A.R.I.B.A., ARCHITECT.

Church of St. John the Divine, Rochdale : The Sanctuary

E. Bower Norris, A.R.I.B.A., Architect



The lighting of the interior is effected by three large five-light windows in the transept arch. These, together with the small lights in the base of the dome, give a very beautiful diffused light.

Church of St. John the Divine, Rochdale : View of Main Pier supporting Dome

E. Bower Norris, A.R.I.B.A., Architect

The church will accommodate nominally 900 people, but owing to the generous space allowed in the aisles it is estimated that accommodation could be found for about 1,200 people.

Reinforced Concrete Retaining Walls—III

By PROFESSOR HENRY ADAMS, M.Inst.C.E., F.R.I.B.A., Etc.

HAVING worked in close detail through the design for an L-shaped retaining wall, it will be instructive to prepare a design for a wall with counterforts, but otherwise to fulfil the same conditions. In the previous wall every foot run was similar, and the main reinforcement vertical. In the present case the wall will be repeated in bays of, say, 10 ft., the centre distance of the counterforts, and the main reinforcement will be horizontal, held by the counterforts. The wall slab, or panel intervening between the counterforts, will be somewhat in the condition of an ordinary floor slab, but with the load increasing from the top to the bottom of the wall. Take, as before, a wall to support earth 12 ft. high (h) level with the top. The earth to weigh 100 lbs. (w) per cub. ft., and to have an angle of repose (θ) of $1\frac{1}{2}$ to 1, or 33° 42′.

The thrust will vary from zero at top of wall to $wh \tan^2\frac{90-\theta}{2}$ at the bottom $=100\times12\times{\cdot}286=343{\cdot}2$ lbs. per ft. run. The total thrust acting at one-third the height will be $\frac{1}{2}wh^2 \tan^2\frac{90-\theta}{2}=\frac{1}{2}\times100\times144\times{\cdot}286=2{,}059{\cdot}2$, say, 2,060 lbs. per ft. run. Taking the lower foot of the wall as a continuous beam 10 ft. span (centre to centre of counterforts), and adopting the London County Council formula, the bending moment will be $\frac{WL}{10}=\frac{(343{\cdot}2\times10)\,(10\times12)}{10}=41{,}184$ lb. ins. The thickness will be given approximately by the rule $B=95\,bt^2$, where B = bending moment in lb. ins.; b = breadth in inches, say, 12; t = effective thickness in inches, then $t=\sqrt{\frac{41184}{95\times12}}=\sqrt{36{\cdot}13}$ = say, 6 ins., and ·675 per cent. reinforcement $\frac{12\times6}{100}={\cdot}72$, say $\frac{15}{16}$ in. diameter. The total thickness at bottom will be effective thickness, 6 in. + $\frac{1}{2}$ in. (for $\frac{1}{2}$ diam. of rod) + 1 in. cover = $7\frac{1}{2}$ in. The top of the wall should not be less than, say, 4 in. total thickness, the back may, therefore, be tapered up from $7\frac{1}{2}$ in. to 4 in., and finished with part turned over as a coping. Theoretically the horizontal rods, 12 in. apart, may be reduced from $\frac{15}{16}$ in. at the bottom to nothing at the top, but for other considerations we must have not less than $\frac{1}{2}$ in. diameter at the top. The theoretical diminution of diameter of reinforcement rods towards the top of wall will be given by ordinates to a parabolic curve, the vertex being at top of wall, and the semi-base = bottom reinforcement. A diagram, Fig. 7, will make clear the difference between theory

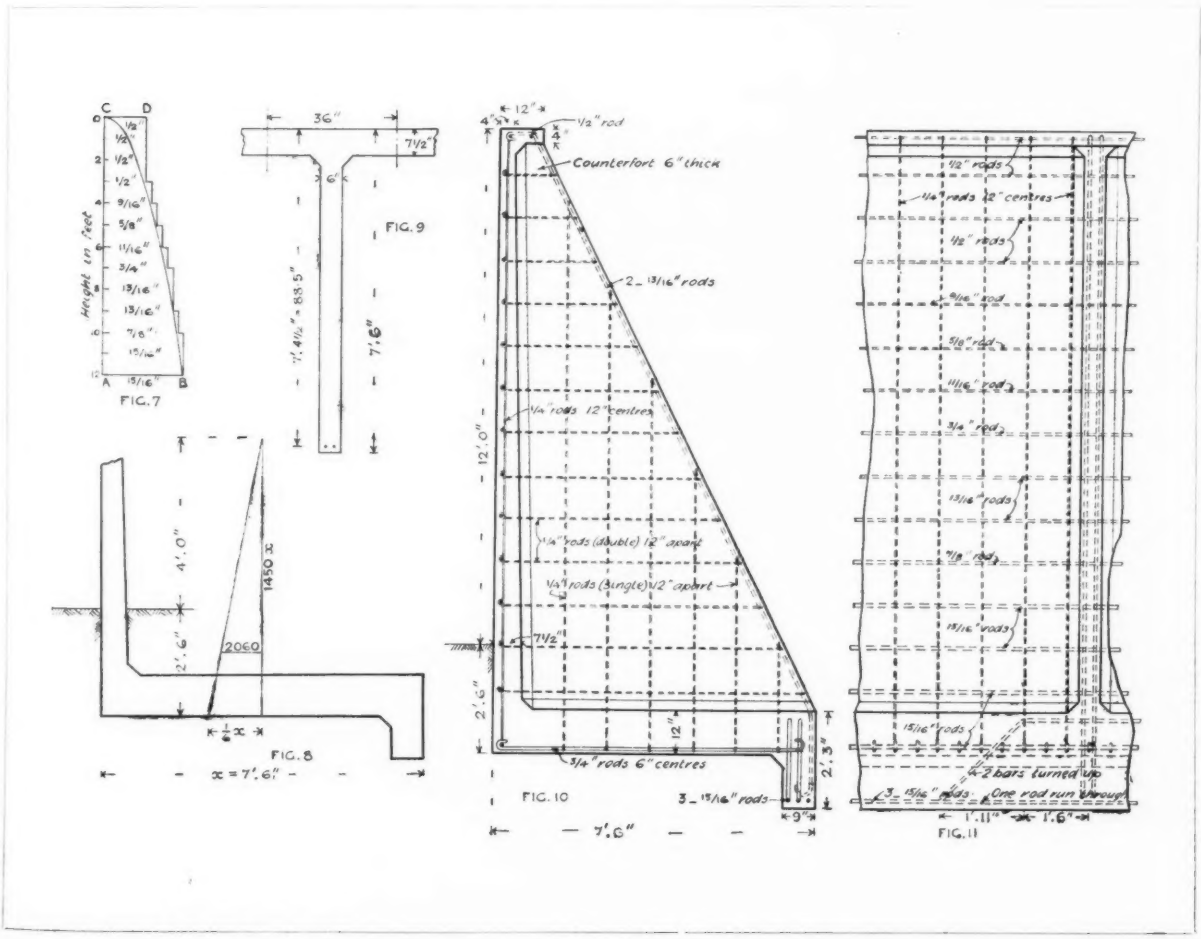


Fig. 7.—Use of parabola to find size of intermediate bars. Fig. 8.—Calculation of width of base. Fig. 9.—Tee-beam formed by counterfort in plan. Fig. 10.—Complete section of wall. Fig. 11.—Part elevation of back of wall.

and practice. AB to scale is $\frac{15}{16}$ in., diameter of bottom rod, CD diameter of top rod, CB the line of theoretical requirements, and the zig-zag line, DB, the practical allowance at each foot of height. Although rods varying by thirty-seconds of an inch can be obtained, it is better to keep to sixteenths.

No vertical reinforcement in the wall panel is required with counterforts, as the latter resist all the overturning force, but vertical rods $\frac{1}{4}$ in. diameter are required to distribute the cracks due to a possible shrinkage of the concrete, and hence called distributing rods, being the same as are sometimes called "temperature reinforcement."

As a check upon the work the thickness of wall and reinforcement at, say, a depth of 5 ft., can be tried for strength where we have a $\frac{5}{8}$ in. rod and a thickness of $5\frac{1}{2}$ in. The thrust will be $wh(tan^2 \frac{90-\theta}{2})$, $= 100 \times 5 \times \cdot 286 = 143$ lb. per ft. run, and the bending moment $\frac{WL}{10} = \frac{(143 \times 10)(10 \times 12)}{10} =$ 17,160 lb. in. Then $95bt^2 = 17{,}160$, whence $t = \sqrt{\frac{17160}{95 \times 12}} = \sqrt{15 \cdot 05} = 3 \cdot 88$ in., and $\cdot 675$ per cent. reinforcement $= \frac{12 \times 3 \cdot 88 \times \cdot 675}{100} = \cdot 314$ sq. in., which requires a rod $\frac{5}{8}$ in. diameter, and a total thickness of $3 \cdot 38 + \frac{1}{4} + 1 = 5 \cdot 13$, say, 5 in.

The next step will be to design the floor slab between the counterforts, giving it such width as will keep the resultant of the thrust and load within the middle third of the base. The underside of base should be not less than 2 ft. 6 in. below lower ground level. The weight of the earth above, including concrete, will, at that level, be $100 \times (12 + 2 \cdot 5) =$ 1,450 lbs. per ft. sup. Let the width of the slab be x ft., including thickness of wall. The distance from the resultant to the centre of pressure will be $\frac{2}{3}x - \frac{1}{2}x = \frac{1}{6}x$. The total thrust on the wall per ft. run we found to be 2,060 lb. per ft. run acting at one-third the height = 4 ft. up. Then we have the proportion, shown in Fig. 8, where thrust 2,060 : pressure on slab, $1{,}450x$: : distance from resultant to centre of pressure $\frac{1}{6}x$: leverage to underside of base $4 + 2 \cdot 5$ ft., or $\frac{1450x \times \frac{1}{6}x}{2060} = 6 \cdot 5$ whence $= \sqrt{\frac{16{,}068}{290}} = \sqrt{55 \cdot 4} = 7 \cdot 44$, say, 7 ft. 6 in. The floor slab will be designed as an ordinary slab 7 ft. 6 in. span, carried by the wall and by a projecting beam on the inner edge. The distributed load on 1 ft. run of the slab will be $1450 \times 7 \cdot 5 = 10{,}875$ lb., and the bending moment $\frac{WL}{8} = \frac{10{,}875 \times 7 \cdot 5 \times 12}{8} = 122{,}343 \cdot 75$, say, 212,344 lb. ins. Then $95bd^2 = 122{,}344$, $\therefore d = \sqrt{\frac{122{,}344}{95 \times 12}} = \sqrt{107 \cdot 3}$ $= 10 \cdot 36$, say, $10\frac{1}{2}$ in. effective, and the total $10\frac{1}{2} + \frac{1}{2} + 1 =$ 12 in. Allowing $\cdot 675$ per cent. reinforcement this will equal $\frac{12 \times 10 \cdot 5 \times \cdot 675}{100} = \cdot 85$ sq. in., or $\frac{3}{4}$ in. rods 6 in. centres.

The toe or cleat on the inner edge will act as a continuous beam carrying half the load of floor slab when the wall is upon the point of overturning, which is the extreme condition to take. The bending moment by L.C.C. rules will be $\frac{WL}{10} = \frac{10{,}875 \times 10 \times 10 \times 12}{2 \times 10} = 652{,}500$ lb. ins. Using the approximate rule for net bending moment, viz., that due to external load only, when the unknown weight of the beam has also to be carried, we have $B = 87bd^2$ or $d = \sqrt{\frac{B}{87b}} = \sqrt{\frac{652{,}500}{87 \times 12}} = 25$. Giving $\cdot 675$ per cent. reinforcement we shall have $\frac{25 \times 12 \times \cdot 675}{100} = 2 \cdot 025$ sq. in., or, say, three $\frac{15}{16}$ in. rods, giving 2·07 sq. in.

The maximum stresses may be checked as follows:

B = net bending moment = 652,500 lb. ins.

m = modular ratio of steel and concrete $\frac{E_s}{E_c} = \frac{30{,}000{,}000}{2{,}000{,}000}$, $= 15$.

d = effective depth = 25 in.

p = ratio of steel to concrete $\frac{A_s}{A_c} = \frac{2 \cdot 07}{12 \times 25} = \cdot 0069$.

k = fraction of depth given by distance of neutral axis from compressed edge.

$k = \sqrt{p^2m^2 + 2pm} - pm$.

$= \sqrt{\cdot 0069^2 \times 15^2 + 2 \times \cdot 0069 \times 15} - \cdot 0069 \times 15$.

$= \sqrt{\cdot 0107 + \cdot 207} - \cdot 1035$.

$= \sqrt{\cdot 2177} - \cdot 1035 = \cdot 363$.

$1 - \frac{1}{3}k = 1 - \frac{\cdot 363}{3} = 1 - \cdot 121 = \cdot 879$.

t = maximum tensile stress in steel.

$= \frac{B}{pbd^2(1 - \frac{1}{3}k)} = \frac{652{,}500}{\cdot 0069 \times 12 \times 25^2 \times \cdot 879}$

$= \frac{652{,}500}{45 \cdot 49} = 14{,}344$ lb. sq. in.

c = maximum compression in concrete

$= \frac{2B}{kbd^2(1 - \frac{1}{3}k)} = \frac{2 \times 652{,}500}{\cdot 363 \times 12 \times 25^2 \times \cdot 879} = \frac{1{,}305{,}000}{2{,}393} =$ 545 lb. sq. in., as compared with the standard stresses of $t = 16{,}000$ and $c = 600$.

The reinforcement of the counterforts will run down the sloping edge, with light rods connecting it to the wall slab. Try a thickness of 6 in. reinforced with two $\frac{15}{16}$ in. rods. The section at base will form a tee-beam with part of the wall slab as in Fig. 9. Taking one-fourth the height of counterfort as the width of flange the depth will be 7 ft. 6 in. over all, or $88\frac{1}{2}$ in. effective. The total thrust against the wall $= 2060 \times 10 = 20{,}600$ lb. at a height of $4 + 1 \cdot 5 = 5 \cdot 5$ ft. above floor slab, giving a bending moment of $20{,}600 \times 5 \cdot 5 \times 12 = 1{,}359{,}600$ lb. in.

Tee-beams involve a rather more complicated formula than plain beams.

Let m = modular ratio of steel and concrete $= E_s/E_c = 15$.

p = ratio of steel to concrete $A_s/A_c = \frac{2 \times \cdot 52}{(88 \cdot 5 \times 6) + (36 \times 7 \cdot 5)}$ $= .0013$.

b = breadth of flange of beam = 36 in.

d = effective depth of tee-beam = 88·5 in.

d_s = total thickness of slab = 7·5 in.

k = fraction of depth given by distance of neutral axis from compressed edge $= \sqrt{p^2m^2 + 2pm} - pm$

$= \sqrt{\cdot 0013^2 \times 15^2 + 2 \times \cdot 0013} - \cdot 0013 \times 15$

$= \cdot 0546 - \cdot 0195 = \cdot 0351$.

n distance of neutral axis from compressed edge $= dk$

$= 88 \cdot 5 \times \cdot 0351 = 3 \cdot 1$ in.

z = modulus when neutral axis remains in slab.

$= \frac{n}{3} = \frac{3 \cdot 1}{3} = 1 \cdot 033$

B = bending moment = 1,359,600 lb. ins.

t = maximum intensity of tensile stress in steel reinforcement.

$= \frac{B}{A_s(d - z)} = \frac{1{,}359{,}600}{1 \cdot 04(88 \cdot 5 - 1 \cdot 033)} = 14{,}945$ lb. sq. in.

The concrete is sure to be ample, and the design may be proceeded with as in Fig. 10 cross section, and Fig. 11 part back elevation.

It should be noted that in this design the face of the wall will be in tension, which is the reverse of the previous case, and is due to the pressure of the earth on the inside being resisted by the counterforts, the wall being as a loaded slab between them.

The base having been designed for the resultant force to cut the middle third, there will be no tension on inner edge, but the compression at outer edge will be $1450 \times 2 =$ 2,900 lb. sq. ft. $= 1 \cdot 296$ tons sq. ft., which is within the usual limit of $1\frac{1}{2}$ tons sq. ft.

(To be continued.)

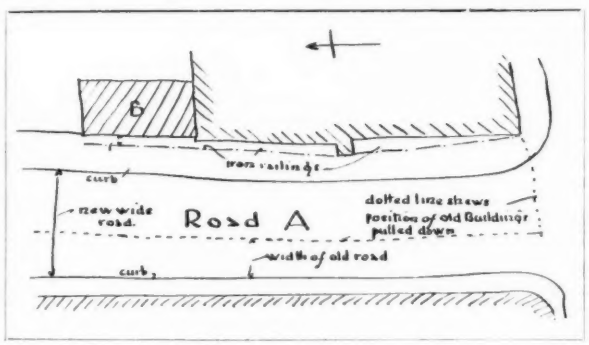
[The previous articles of this series appeared in our issues for May 13 and June 17.]

Enquiries Answered

Enquiries from readers on points of architectural, constructional, and legal interest, etc., are cordially invited. They will be dealt with by a staff of experts, whose services are specially retained for this purpose. If desired, answers will be sent direct through the post. In no case is any charge made for this service. Whenever diagrams accompany an enquiry, they must be clearly drawn and lettered and inked in.

LIGHT FROM A MUNICIPAL FOOTPATH.

"Subscriber" writes: "Some years ago the road A (shown on the accompanying sketch plan) was widened by the local authority, who bought and pulled down the buildings on the west side of building B. A new and wider road and a new public footpath were made by the local authority, who also erected iron railings in front of the building B and the adjoining buildings. This railing is fixed approximately 6 in. away from the walls of the buildings. The building B is a one-story building, top-lit by a glass lantern. The owner wishes to convert building B into a shop, with offices over; by knocking out the blank wall abutting on to the public footpath and inserting a shop front, etc. The local authority claim that he cannot do this as he has no right of access or light on to the public pave-



ment. The local authority claim that they own 6 in. beyond the iron railings; i.e. between the iron railings and wall of building B; and that the owner of building B must pay them a certain sum of money for the right of access and light on to the public footpath over the 6 in. strip of land above-mentioned. Have the local authority the power to do this? Surely a private individual has the right of access and light from his property abutting on to the public footpath? Even supposing the local authorities' claim to the 6 in. strip of land beyond the railings is correct, that strip of land would be held to be part of the public footpath."

—No doubt the local authority erected the iron fence at the time they bought the property and made the road, for the purpose of conserving the very rights which are now in question. It is abundantly clear, from the sketch plan, that B possesses no rights of access to the new road, because there is a strip of someone else's property between him and the road A. It is purely a coincidence that the somebody else is the local authority. If the owner of building B wants to improve his property by opening out a frontage to road A, he must purchase (1) the intervening strip of land, or (2) the right to pass over it. It is not an unreasonable position, because B has never had a way out on that side of his property, and if allowed to now open out such a way, he would be acquiring for nothing an interest in the new road, which must have cost the ratepayers a considerable sum. I am of opinion that the position of the local authority is impregnable. F. S. I.

ANNOYANCE CAUSED BY TRANSMISSION OF NOISE FROM LIFT MOTOR.

"Anxious" writes: "A lift motor recently installed on the ground floor of a building is separated by a wall from a directors' room. The noise of the motor is causing annoyance to the occupants. Certain very cogent reasons precluded the motor being fixed in the basement or overhead. The motor is fixed to a steel and concrete floor with a cement finish over the cellars beneath. The floor of the directors' room is of wood boarding on battens, resting on a fire-resisting concrete floor over similar and adjacent cellars."

—The problem here seems to be that of having to place a lift motor on the same floor as, and divided only by a wall from the directors' room. This is asking for trouble, and no complete remedy can be had. There is only one reliable way of preventing noises from lift motors, and that is by completely insulating the foundations. If possible, break through the cellar floor beneath and carry up a small brick pier on special foundations, and bed the motor on that. Palliative measures can be undertaken as follows: Place the motor on a thick rubber bed or on one of the patent anti-vibration mats. Take up and dissociate wood floor of directors' room by placing felt or quilt beneath the battens. But it is impossible to advise on such a subject from insufficient data.

H. B.

A CLAY FOUNDATION.

"Practical" writes: "In erecting small types of residences—small bungalows chiefly—on clay, on a level site—the clay some 9 in. below the surface, and the water-line from some 6 ft. to 16 ft. down, do you agree that it is not necessary to go lower for foundations than say, 12 in. to 18 in.?"

—Under all ordinary circumstances it would be advisable to take foundations deeper than 18 in. into a clay subsoil water-logged at distances varying from 6 ft. to 16 ft. from the surface.

The lightness of the proposed buildings is no sufficient safeguard, and may even favour the production of unsightly and troublesome fractures, as some parts will be more heavily loaded than others and will compress the plastic base to a greater degree.

The old, and safe, rule concerning clay foundation is to take the bottom of the trench sufficiently far into the subsoil to reach a stratum that will be protected from heat and cold and extremes of moisture and dryness. In England, where clay land sometimes cracks to a depth of from 3 ft. to 4 ft. after a dry summer, the trenches would need to be 4 ft. deep unless other adequate precautions are taken to maintain uniform conditions in and around the buildings.

In the case of small bungalows it has proved a more economical plan to reinforce the concrete under the walls and floors, and float the building at a comparatively high level upon a properly designed raft. In this case both concrete and reinforcement must be designed to spread the weights of the several walls, piers and chimney-stacks as uniformly distributed loads upon the clay. It is necessary also that the liability of the clay to squeeze out from under the heaviest weights should be recognized and a balanced type of design must be adopted. Otherwise the whole building may tilt, or a heavy gable or chimney-stack may overhang and tear free from adjoining parts.

After the site has been covered with impervious material, the outer edges of the foundation will still be exposed to danger from movements and shrinkage in the surrounding clay, and walls are therefore liable to overturn outwards on the softened or shrunken substance, arch thrusts or rafter thrusts increasing the action. This liability is present to some extent even when the foundation raft is reinforced sufficiently to prevent sliding or the separate settlement of individual heavily loaded piers, and should be guarded against by the introduction of continuous belts of reinforcement at lintol and eaves levels. The reinforcement must be continuous and return about all angles and be tied into all cross and partition walls. It does not add very considerably to the cost of the building, for it merely means introducing the necessary links to connect up the lintols one to another at their ends.

Impervious pavings all round a building and adequate measures to conduct surface water away from the foundation are great safeguards to buildings erected on clay, but a hole in the paving, or a leaky rain-water drain has been known to occasion a bad local settlement where the foundations have not been taken down sufficiently far below the surface. The behaviour of buildings already erected on adjoining sites some years ago is generally a fair practical test of the possibilities of any particular subsoil. W. H.

Book Reviews

Basic Elements of Design.

Experience gained as architect, author, and teacher has invested Mr. Arthur Stratton with uncommon ability to expound fundamental principles. These are the theme of a really useful book which he has just published with Messrs. Batsford. In it he gives practical demonstration of the phenomenon that a geometrical basis should govern all design, geometrical forms being more pleasing than irregular figures. Why this is so he wisely refrains from attempting to explain. It is not his business to discuss the reasons for this unquestionable preference. Perhaps it is one of the many unfathomable mysteries about which, at the present stage of mental development, it is vain and unprofitable to speculate. Let it engage the ingenuity of the psychologists. It is odd, however, to contrast the human love of geometrical forms with Nature's apparent repudiation of them, if we are to accept her constant avoidance of straight line and circle and rectangle; although crystalline forms must not be ignored. That geometrical forms are admired by the same mind that loves the decidedly less regular and precise shapes of trees and flowers, may possibly be accounted for by reflecting that while the natural form is a more or less haphazard growth, shapes that are artificial are expected to conform strictly to a conventional standard, the human mind exacting the utmost precision from the human worker. Further inquiry into so recondite a subject would probably land us in the vasty inane of metaphysical futility.

There is no doubt, however, of the validity of Mr. Stratton's dictum that in design "the circle, the square, and the rectangle being elemental are of most frequent occurrence" in building design. Then the methods of adapting these and their derivative forms to various requirements are so numerous that those derived forms may also be regarded as, in a sense, basic, if not quite so elemental as their primitives.

It would seem that these elemental forms have been hitherto too much taken for granted—left too confidently to personal observation and casual inference. Certainly architectural photographs and drawings greatly abound; but such pictures are more often intended to be admired as a whole rather than studied analytically and in minute detail. They are, indeed, hardly better adapted for that purpose than a novel is for the study of philology.

Several expert and enthusiastic helpers have assisted Mr. Stratton to collate examples, the aim kept always steadily in view being not so much the presentation of notable buildings as the exhibition clearly and convincingly of certain fundamental architectural motives—in other words, of showing plainly, by means of actual and authentic examples, how those elemental forms have been composed and adjusted in the best architectural practice.

Mr. Stratton's method of presentment may be briefly described. His plates of views occupy the left-hand pages of the book, and facing them are plans of the fundamental forms on which each composition is based, these root forms, whether primitive or derivative, being detached or "taken off" from the composition, and presented diagrammatically and independently with the deft and accurate draughtsmanship that might be expected from the skilled hands of Professor Leslie Wilkinson, Miss Gertrude Leverkus, and the other adepts in this kind of whose assistance Mr. Stratton makes due acknowledgment in his preface.

Besides the numerous plates illustrating, singly or in certain combinations, the elementary forms—circular, rectangular, semi-circular, elliptical, octagonal—there are plates illustrating corridors, vestibules, vaulted loggias, and many other architectural features in which those forms have been adopted.

Concerning vaulted loggias and covered ways (see the illustration here reproduced) Mr. Stratton has a note to the effect that where these give access to courtyards, affording means of communication, "the architecture of the outside corridor must be considered (see I to IV in the illustration). The other illustration here reproduced shows façades two principal stories in height; the drawings are based on English late eighteenth-century practice. Mr. Stratton recalls that "many thoroughfares in London and other cities, which, in the eighteenth and early nineteenth centuries were lined with façades in which continuity of the main horizontal lines is preserved," and he commends "the quiet dignity that distinguishes them irrespective of the materials employed."

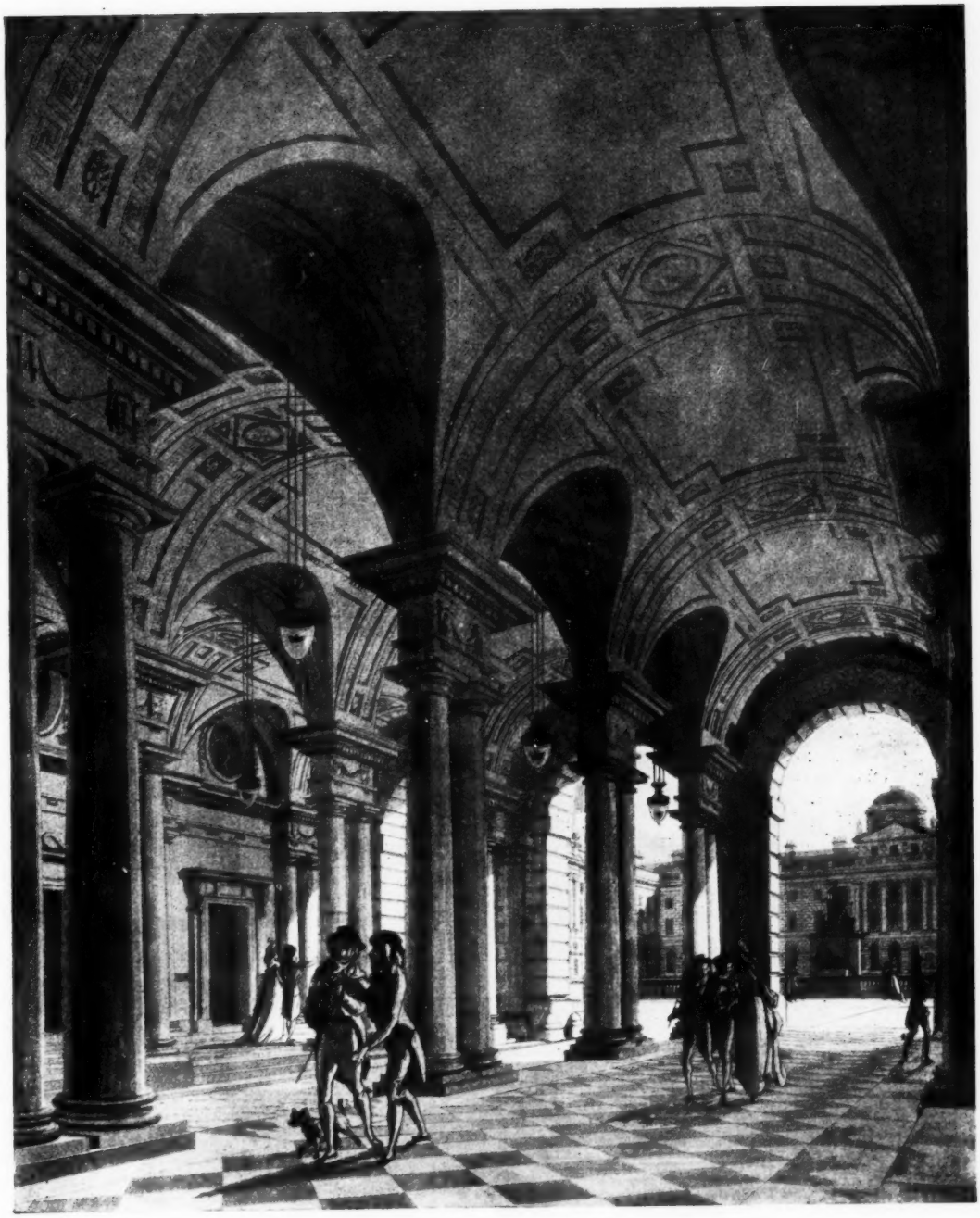
The author observes in this same introduction, "A work of this description must of necessity emphasize the extraordinary similarity that prevails in building expression as interpreted by architects of different countries." Is it so very strange that there should be a river in Macedon and a river in Monmouth? Such emphasis is no doubt superfluous outside the class-room, where, however, it is often exceedingly useful in stimulating observation. As Professor Richardson remarks in his brief "foreword": "Although it is possible for the experienced practitioner to enter upon the uncertain paths of adventure and from the depths of his knowledge to evolve novelty which may accord with the latest ideas, it is equally impossible for a beginner to neglect what has been already achieved." The Professor deprecates the selection of motives from actual buildings or from books with the object of fitting them to new conditions, the result being "that literal transcriptions have been made of historic models." "This book has a more thorough purpose in view, for it aims at initiating all who are concerned with the design of buildings into first principles of arrangement irrespective of style, period, or fashion, and its scope is deliberately limited to the most elementary of known forms." That limitation can certainly be regarded as a merit rather than a defect; because, in a book mainly intended to impart instruction, it is folly to attempt too much. What is attempted in this handsome book is done thoroughly well; and the practising architect, as well as the student, will value the plain elucidation of first principles, and the sage counsel which permeate this handsome quarto volume.

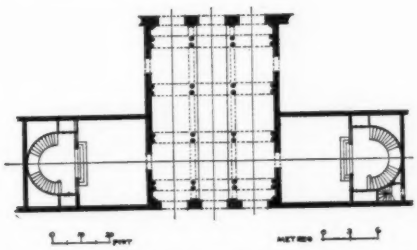
"Elements of Form and Design in Classic Architecture," shown in Exterior and Interior Motives collated from Fine Buildings of all Time on one hundred plates. By Arthur Stratton, architect, F.R.I.B.A., etc., etc. London: B. T. Batsford, Ltd. 94 High Holborn. Price 28s. net.

A Book of Architectural Designs.

Perhaps "Essays and Designs" would have been a better title for this book than the one which it bears. The essays are the more valuable part of it, being by seasoned experts, whereas the designs are by senior students of the Architectural Association School. "A Book of Design" might be expected to be more widely representative with respect to the examples. Of these there are forty, all in some way meritorious, but all, while sufficiently varied in subject, impressed with the character of the school in which they were wrought—beyond question a school commendable in the superlative degree, yet not free—how could it be?—from the limitations of environment. It would be invidious to indicate which of the two-score designs put forward, in our opinion, the strongest claim to admiration; and, of course, it would be ridiculous to bring into odious comparison the design for a college chapel, say, with that for a modern office building, or to assess the comparative merits of the colour treatment of a restaurant and the design for a modern church. Subconsciously, we doubtless do form such incongruous comparisons; but they are likely to be unfair unless the assessor is strong enough to segregate his subject, and judge it solely for what it is in itself. To speak quite candidly, the chief object in suggesting the possibility of such absurd comparisons is simply to afford some slight idea of the diversity of the forty designs shown in a book that is the more valuable for its miscellaneousness.

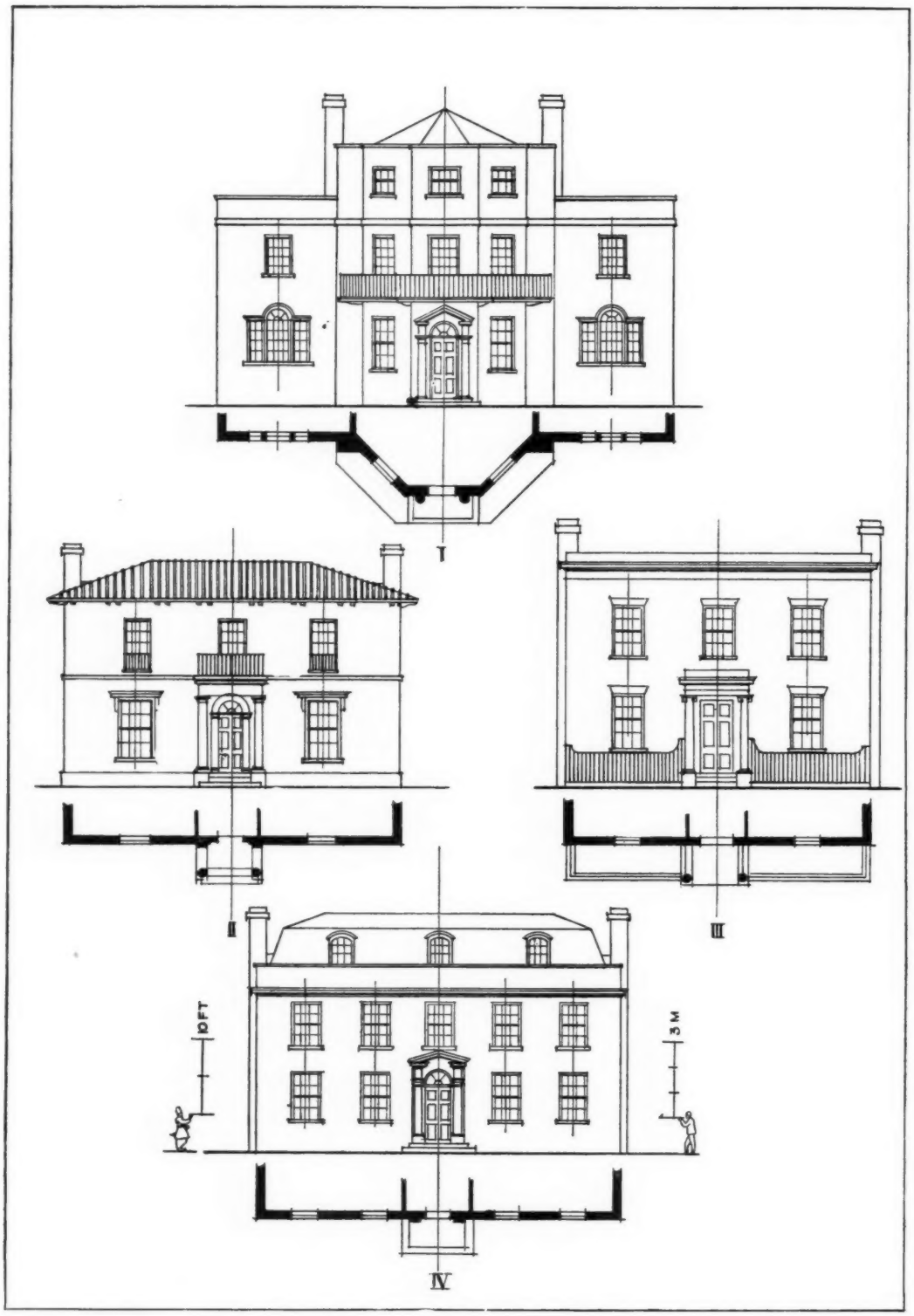
As to the essays, positive preference is ruled out on the





VESTIBULES AND COVERED APPROACHES, SOMERSET HOUSE, LONDON.
DESIGNED BY SIR WILLIAM CHAMBERS.

(From "Elements of Form and Design in Classic Architecture.")



FAÇADES TWO PRINCIPAL STORIES IN HEIGHT.
GENERAL TYPES BASED ON ENGLISH LATE EIGHTEENTH-CENTURY PRACTICE.
(From "Elements of Form and Design in Classic Architecture.")

similar grounds that on the whole they are as diverse in subject as they are admirable in treatment. But we have no hesitation in saying that, taken collectively, they are the most valuable feature of the book. They combine ripe scholarship with keen enthusiasm. The book deserves a more expressive title.

"A Book of Design." By senior students of the Architectural Association School, with introductory Essays by Robert Atkinson, Howard Robertson, Oscar Faber, Y. O. Rees, Walter M. Keesey, and L. H. Bucknell. 9 by 11½ in. Price 21s. net. London: Ernest Benn, Ltd.

All About Roof Coverings.

No detail of building construction is devoid of interest. Roof coverings are rich in it. This aspect of his subject Mr. Blake does not ignore. Recognizing, no doubt, that the greater the interest taken in the work, the better will be its execution, he takes pains to awaken that interest, and in this aim he has in a great measure succeeded, incidentally producing a book that is entertaining as well as useful.

As he states in his preface, he endeavours to tabulate and describe as completely as possible "all the materials that are usually employed as roof coverings . . . the origin and nature of the materials, and the processes by which they are converted into a suitable condition for their specific purposes."

It is a formidable task, but the author has performed it in such a manner as to render his book both useful to study and pleasant to read.

"Roof Coverings: Their Nature and Application." Being a description of the origin, nature, and the method of fixing the various materials and substances that are employed for covering the roofs of all classes of buildings. By Ernest G. Blake. With 144 illustrations. London: Chapman and Hall, Ltd. Pages i–xi, 1–264. 6 in. by 8½ in.

Art and Craftsmanship.

Among the many pithy and pertinent sayings which Mr. John Gloag has collected in his admirable introduction to the current Year-book of the Design and Industries Association, there are some that should take rank as axioms. The simplest of them is Professor Lethaby's definition that "Art is thoughtful workmanship." That, of course, is art in its simplest aspect.

To this Mr. Gloag adds the gloss that "the lucid common sense of the fact that designing is simply knowing what you are going to do and how to do it has escaped popular publicity." Not entirely escaped it, we should say, unless Professor Lethaby has in vain preached so long his simple gospel.

Nor is it in vain that the Design and Industries Association has taken up the parable. Its Year-book for 1924-5 shows many encouraging evidences that its work is assuredly bearing fruit after its kind. A hundred and twenty-six plates of extraordinary diversity in subject, character, and treatment, bear witness to the more intelligent thought that is to-day bestowed on the making of common things; and even the advertisements shown in an appendix to this Year-book are at least void of offence, although here, as in many of the plates, it cannot be confidently stated that industrial art is completely emancipated from the Victorian conventions that have fettered it.

Among the most convincing examples of the application of real and vital art to industrial design may be cited the architectural details, such as doors and windows. Judging from these specimens, and considering, moreover, the further series of dignified designs for exteriors and interiors, whether of dwellings or of factories, or of shops or exhibition buildings, or whether, again, we examine the examples of decoration and pictorial embellishment, or of furniture and fitments, it seems reasonable to infer that architects stand pre-eminent among the pioneers of design in industrial art; nor will they disdain to be considered its principal exponents and exemplars.

Architectural also, in distinctive character or in more or less intimate relationship, are the figure-sculptures for panels, and the ecclesiastical decorative features in glass or in Della Robbia ware; and even the posters, of which there is a choice selection, reveal a certain degree of kinship or affinity with the Mistress Art, who, indeed, is the Alma Mater of industrial art. The book may be safely taken as evidence that the Design and Industries Association is effectually promoting the excellent objects for which it was formed.

"Design in Modern Life and Industry." Being the Year-Book of the Design and Industries Association, 1924–25. With an introduction by John Gloag. London: Ernest Benn, Limited, 8 Bouverie Street, E.C.4. 148 pages, 8 in. × 11½ in. Price 15s. net.

A Glimpse of the Mayas.

Is it not passing strange that our good friends the French are so much more practical and prolific than we in the production of unpretentious but comprehensive handbooks about overseas regions? It may be that our own folk prefer to ascertain the data on the spot, rather than from books—to visit the overseas countries rather than to read or to write about them. When they do write about them, they prefer to produce not a handbook, but a big volume in the grand manner, heavy to hold and perhaps heavier still to read.

That French books on such subjects are at once more numerous and less expensive to produce and to purchase, evidence is before us in the form of a little paper-covered volume which has been sent to us from Paris by its publishers. It comprises a very useful account, "descriptive, economic, historic, social, and scientific," of certain interesting regions of tropical and trading America. Those particular regions—Mexico, Guatemala, British Honduras, all the "isthmic" countries, their extent, their polity, and their productions, are treated with the clarity, compression, and precision that seem inseparable from the French genius. Finance and the banking systems of the various countries—and, in fact, everything that matters—receive due attention. Means of transport by rail, road, and waterway are fully described, as are also the public services of lighting, paving, post and telegraph, sanitation and the public health, the newspaper Press, etc.

Of course, there is a chapter on the arts, and the reference to architecture includes the detailed map, in the Carnegie Institute at Washington, depicting a portion of the ancient Empire of Maya, which has been considered to be one of the earliest instances of civilization. Copan, or Copantl, in Honduras, was apparently the Maya capital; and the Maya territory abounds in the remains of a wonderful prehistoric civilization.

"Régions Isthmiques de l'Amerique Tropicale." Par Desiré Pector. Préface par Henri Cordier. Paris: Société d'Éditions Géographiques, Maritimes, et Coloniales, 17 Rue Jacob (VIe).

Correspondence

Architectural Style

To the Editor of THE ARCHITECTS' JOURNAL.

SIR,—May I draw attention to some serious errors in Mr. Trystan Edwards's article on architectural style in your issue for the 15th? In his Fig. XXV he shows a sketch of a modern building that is easy enough to recognize from its position on the water and its big square tower. Speaking of this sketch he says: "The tower is, indeed, punctuated at the top, but perhaps too suddenly, for its plain surface is in no way inflected to prepare us for such a diminution." This is true of his sketch, but the first thing that strikes one on seeing the real tower is the amazingly able way in which the architect has applied an entasis that draws in suddenly at the top, thus giving the tower that sense of perfect fitness the absence of which Mr. Edwards deplores. Mr. Edwards adds that "its base is not articulated at all." In his sketch he has not articulated it, but if he will look at any photograph of the real building he will see that it stands on a powerful stone plinth built out into the sea, and that this plinth forms a perfect "articulation" between the sea and the tower. Mr. Edwards's criticisms may apply to his own sketch, but they do not in the least concern the noble building of which his sketch is a caricature.

SKAAL.

The Parging of Flues

To the Editor of THE ARCHITECTS' JOURNAL.

SIR,—I am anxious to hear some views on the modern practice of parging flues. Nearly all the authorities still specify lime and cow-dung without giving any alternative, and "Specification" says this is the only satisfactory method. Modern builders, however, would seem to have given up the old practice and use ordinary cement mortar as though it were only a case of external rendering. I have never seen any reason given for using lime and cow-dung, but there must have been some definite object in this method. Are we right in giving it up, and is cement mortar a satisfactory alternative?

This seems to be one of those cases where old practices have been handed down and repeated in text-books in the vaguest of ways, and it would be very useful to have an authoritative statement on the subject. M.

Contemporary Art

Sculpture.

The exhibition of British champion animals held under the auspices of "The Field" at Knoedler's Galleries is something fresh in English sculpture. It is the work of Herbert Haseltine, who is claimed variously as English, French, and American. It is portraiture with a slightly decorative feeling which gives it charm. It is a consistent body of animal sculpture; it is not inspired like the work of J. M. Swan, but it has its qualities. The exhibits are admirably arranged, and vary in size from small bronzes to pieces in stone and marble a quarter-life size. A typical example is the Aberdeen-Angus bull "Black Knight of Auchterarder," in black marble; another, in veined red marble, is the shorthorn bull "Bridgebank Paymaster"; the champion sheep are particularly decorative, and the Lincoln ram "Conqueror," carved in shelly limestone, the woolly coat left unpolished, the head and other small details polished, is a good example of translation into suitable material. These carved pieces are not, however, glyptic in their expression, but follow closely the original modelled studies. The colours and textures of these different materials give a very pleasing variety to the show.

At the St. George's Gallery two heads, by Jacob Epstein, exhibit the artist's unconventional and stylized method of modelling. One is "Dolores," the other the study for the head of the figure Rima of the Hudson Memorial, in white plaster. It is thoroughly plastic in conception and execution, and could only suffer by being translated by a glyptic method into another medium. This head-study in itself, in spite of its mannerism, is actually an inspiration of an inspiration.

Water-colour and other Drawings.

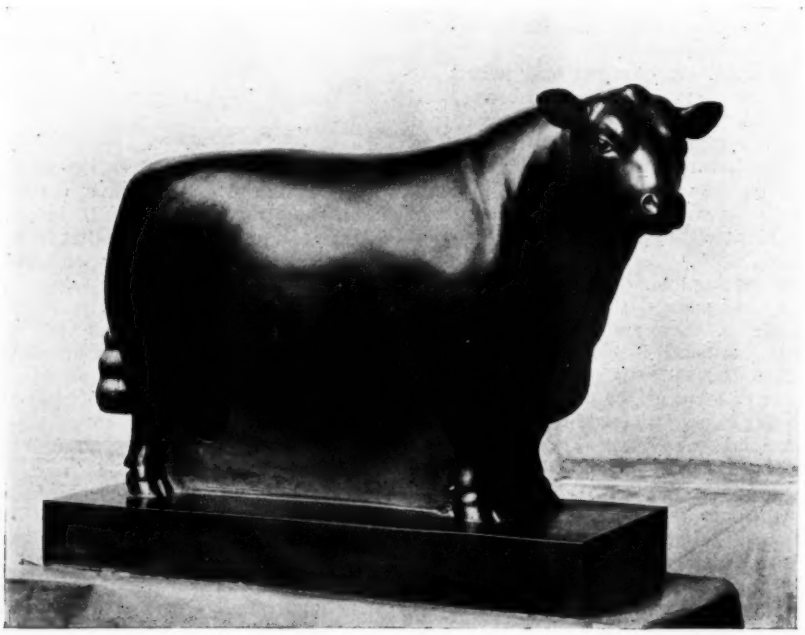
In the exhibition at the St. George's Gallery there are a number of fair-sized drawings by Frank Brangwyn, many of them of industrial subjects, busy, but yet static, a way this artist has of stating his theme, as though he conceived it in a dynamic instant and arrested its potentiality for his statement, which becomes on this account perfect and complete. Gordon Craig's drawings in this show are designs which are utterly different in intention from Brangwyn's work. They are illustrations of episodes, while the latter's are narratives.

Modern water-colour drawing in its purity is claimed for the works at the Beaux-Arts Gallery, an interesting and valuable collection, which includes many of an architectural character: Hanslip Fletcher's "Pantheon, Rome," Harry Morley's "Wells-next-the-Sea," Maresco Pearce's "Saint Mark's," and Davis Richter's "Riva degli Schiavoni, Venice."

At Walker's Galleries the twenty-first annual exhibition of Early English water-colours provides some admirable examples of Shotter-Boys, whose "Envermen, Normandy" is a delightful drawing; of James Holland, whose "Venice" vies in interest with his pencil drawing of "St. Maclou, Rouen"; of J. Varley, whose "Cader Idris" would seem to have afforded inspiration to more than one of the contemporary masters of the medium, and of de Wint, Cozens, and Cotman, and of George Dance, Luke Clennell, T. C. Dibdin, W. L. Leitch, with others of the designers of illustrations for wood engraving of the 1850's and 1860's, admirable artists in their particular province of draughtsmanship.

Paul Cézanne.

More is known of Cézanne, who was born in 1839, and died in 1906, from the library of books and articles written about his work than from the work itself. He produced few masterpieces, but the few were fine—and many failures. He knew they were failures, and often he treated them as such. Not so his admirers, who have carefully and usefully collected and treasured whatever came from Cézanne's hand. In the exhibition at the Leicester Galleries there is good and bad work; work finished and unfinished; experimental work and work in all stages, and none of it without interest. No artist of his period did more valuable research work into the painting which was to be the basis of the art of the future, and no one ever revealed so much of the method of that research. There is no piece of painting from Cézanne's brush which has no lesson for the young graphic artist. Perhaps it is his fate to be remembered more by his experiments than by his masterpieces; a curious paradox for the fame of a great artist to contend with. KINETON PARKES.



ABERDEEN ANGUS BULL: "BLACK KNIGHT OF AUCHTERARDER" IN BLACK MARBLE BY HERBERT HASELTINE.

Law Reports

Disputed Right to Assign Lease

Chaplin v. *Smith.*

King's Bench Division. Before Mr. Justice Shearman.

This action raised a curious point as to forfeiture of a lease by assignment without consent. In November, 1920, a lease for fourteen years at a rental of £240 a year was granted the defendant by the plaintiff, of certain premises in the Finchley Road, N., for the purposes of a garage, and one of the covenants laid it down that he was not to assign or part with possession of the premises without the permission of the landlord, the plaintiff.

Sir Malcolm Macnaghten, K.C., appeared for the plaintiff, and Mr. Holman Gregory, K.C., for the defendant.

Sir Malcolm said the facts of the case were that the defendant, after taking over the premises, turned his business of a garage proprietor into a private company, and then sought the permission of the plaintiff to hand possession to that company. The plaintiff refused, whereupon the defendant reserved part of his private office and allowed the company to carry on the business on the premises, and maintained that he was still legally in possession. Then another company took over the first company, the defendant being a director of that company. Upon this being known to the plaintiff he brought his action. Counsel contended that there had been a distinct breach, as the company could not be said to be the defendant.

Mr. Holman Gregory submitted that it was unreasonable for the plaintiff to withhold his permission for the defendant to underlet to the company, seeing that the company had never entered the premises, using them from day to day with the licence of the defendant.

His lordship found for the plaintiff with costs, holding that in the circumstances of the case plaintiff was entitled to possession. He however granted a stay so that defendant could take the opinion of the Court of Appeal if he so desired. In the course of his judgment his lordship said that the position was considerably obscured by divergent authorities on the matter of forfeiture. The essence of the lease was the tenant's right to carry on the business of a garage proprietor. One of the covenants was not to carry on any other business there. In the circumstances he did not think it unreasonable for the landlord to refuse permission for underletting to the company, when it was a one-man company. The authorities went to the length of stating that a lessee was saved from forfeiture if he took care to give a licence merely to the other person to use. In this case the company went into possession of practically the whole of the premises and carried on its business there. As a result it was a company in possession. Apart from the authorities, it appeared to his lordship that the arrangement was a mere colourable transaction in which the lessee said he was in possession, although he was the company. The true inference from the facts of the case was that the second company was in exclusive possession of the premises. Therefore the tenant had without licence parted with possession of the premises in the sense that he had given up possession and let somebody else in. To hold otherwise would, to his mind, be absurd.

Covenant as to "Private Dwelling-house"

Thorn v. *Madden.*

Chancery Division. Before Mr. Justice Tomlin.

This action raised an important point in a lease as to what was meant by the covenant restraining a tenant from using a house otherwise than as a "private dwelling-house or professional residence only."

The plaintiff granted the defendant a seven years' lease of a house at Chelsea at a rental of £180 a year, and that lease contained the following covenants:

(1) To maintain and keep the dwelling-house in good and substantial repair and condition, and particularly to paint all the outside parts of the house usually painted in the month of May, 1924, and subsequently in the same month in every third year of the term.

(2) Not at any time during the said term to "use or permit the said dwelling-house and premises to be used for the purpose of any trade or business whatsoever . . . or otherwise than as a private dwelling-house or professional residence only."

Defendant admitted that the first covenant had not been carried out, and judgment was given against defendant, and an inquiry ordered as to damages.

Mr. G. Simonds, K.C., appeared for the plaintiff, and Mr. Ross Brown, K.C., for the defendant.

Mr. Ross Brown, for the defendant, said his client admitted that, for the first time in her life, in order to meet rents, rates, and outgoings she had taken and was taking friends and others as paying guests who had been secured by private notifications and never by public announcement of the address of the premises. She denied that this constituted a breach of the covenant in the sublease. Counsel submitted that the guests were not received to produce a profit, but as a temporary measure to help meet expenses.

Mr. Simonds contended that a business was carried on by the defendant in breach of the covenant.

His lordship granted the plaintiff an injunction restraining the defendant from using the premises otherwise than as a private dwelling-house, staying its operation, so far as existing guests were concerned, till September 29 next. His lordship said he had to determine whether on those facts anything was being done which constituted a breach of the covenants in the sublease. He could not concern himself with any questions of hardship to the defendant, housing shortage, or the like. However much he might sympathize with the defendant, it was his duty to construe the covenants and find the facts as in any other case. He thought that when, as here, a lady was of set purpose occupying a house which was beyond her means, and, for the purpose of supplementing her means and continuing to live in the house, she was securing visitors to come and live there for long or short periods upon payment of sums for board and residence, it was almost impossible to say that the house was being used as a private dwelling-house only. It seemed to him that the house was being used by her in precisely the same way as if by one who kept a lodging-house or a boarding-house, although there might be some difference in the exact methods employed. He could not help thinking that when the receiving of paying guests was done as a permanent process and the house was kept available for the accommodation of any approved person who was prepared to pay, it fell into the category of a business. It was not like a case when the owner of a house, having a friend who occasionally wished to come and pay him a visit, said he could not afford to keep him, but would be delighted to have him if he would pay for his keep. It was not a necessary quality of a business that it should be advertised in an obtrusive manner. All that was necessary was to take steps to secure the necessary customers, and that was apparently done. He did not think it could make any difference that only persons known personally to the defendant or recommended by those who were known to her were received. There had been a breach of both branches of the covenant—that was, the covenant not to use the dwelling-house "for the purpose of any trade or business" and the covenant against using it "otherwise than as a private dwelling-house or professional residence only." Therefore the plaintiff was entitled to an injunction.

Parliamentary Notes

[BY OUR SPECIAL REPRESENTATIVE.]

Replying to questions put by Mr. T. Thomson, Mr. N. Chamberlain, the Minister of Health, stated that the average cost per acre of land acquired for assisted housing schemes was £230 in urban areas, and £127 in rural areas.

On July 1, 62,230 houses were under construction in connection with schemes under the Housing Acts of 1923 and 1924. In addition, contracts had been let or definite arrangements made for the erection of 5,213, and a further 65,590 had been authorized, but not definitely arranged for.

Statistics were not available as to the number of working-class houses erected before the war, but from figures taken from Inland Revenue returns, as to Inhabited House Duty, it appeared that the average annual increase in the number of houses exempt from such duty by reason of being less than £20 annual value was: In the decennial period 1895-1904, 70,051; in the decennial period 1905-1914, 62,859.

The latest figures available for the total number of houses

built in a year showed that during the year ended March 31, 1925, there were completed :

Houses under State-assisted schemes ..	67,669
Unassisted	69,220
Total	136,889

If, for purposes of the question, they took into account, of the unsubsidized houses, only those having a rateable value of less than £26 a year (or £35 in London), the total number of working-class houses built in the year was 117,817.

Captain Gee asked the Minister if his attention had been called to the sanction given to the erection of sixty-four flats in the town of Folkestone without insisting on the provision of floors between the flats being constructed of impervious material, such as concrete, the absence of which provision would render them liable to become insanitary and verminous; and was it intended to allow similarly constructed flats to be built in other places ?

Sir K. Wood said that under the Housing Acts of 1923 and 1924 the planning and construction of houses were matters for the local authority, and although the Minister was advised that impervious floors between flats, while being more expensive, had some advantages, he did not consider that this was a matter in which he should interfere with the discretion given to local authorities in such matters.

Mr. B. Peto asked the Under-Secretary of State for the Home Department, as representing the First Commissioner of Works, whether the First Commissioner of Works had arranged for the early removal from its present site in Hyde Park of the Epstein bas-relief; and whether he would see that it was not re-erected in any other public place in this country ?

Mr. Locker-Lampson said that the answer to the first part of the question was in the negative, and the second part did not, therefore, arise.

Mr. Day asked the Minister of Transport if his attention had been drawn to the dissatisfaction being expressed regarding the proposed erection of a modern ferro-concrete bridge adjoining Clopton Bridge, Stratford-on-Avon; and, in view of the plans drawn up by the conference of the Stratford Town Council and the Warwickshire County Council, which would provide for a bridge retaining the antique appearance of this historic spot, would he withdraw the order for the erection of the modern bridge so as to avoid disfiguring the upstream face of the existing bridge ?

Colonel Ashley said, at the request of public bodies interested in Clopton Bridge, he convened a conference of those concerned, and put forward suggestions which met with general favour for the construction of a ferro-concrete bridge adjoining the old structure—leaving the latter intact. He hoped that the project will be accepted by the responsible highway authorities, to whom he had offered a substantial grant. No order had been or could be made by his department for the erection of any bridge.

Arterial Road Planning and Housing in the Liverpool Area

Mr. Sydney A. Kelly, in reading a paper on the above subject at the summer meeting of The Surveyors' Institution and Land Agents' Society held at Liverpool, said that Liverpool is somewhat unique in not having adopted a general town-planning scheme; but the fact is, that the Corporation fortified with the Liverpool Corporation Act, 1921, and having so able an administrator as the city engineer, Mr. J. A. Brodie, have been able to carry out what may be called arterial road planning without bringing into use the powers under the Town-Planning Act.

If you look at the map of Liverpool you will see how the roads centre on the pier-head, spreading out fanwise, the north and south dock roads running parallel with the river, and the roads radiating fanwise or like the spokes in a wheel from this common centre. Another point to which he would draw attention is the contours which surround this centre at a distance of about three-quarters of a mile, as a ridge runs practically all round, leaving the centre in a sort of cup or hollow. The result of this is that practically every radial road has to encounter this hill before the plateau is reached, which gives access to the outer suburbs. Intersecting these main roads or radial routes there are one or two clearly defined belts of circumferential roads encircling the city.

Prior to about 1908 Liverpool did not possess many wide roads, with the exception, however, of Princes Road, which is 126 ft. wide, and was constructed in 1880. One of the first widening schemes took place in 1898—this was the Scotland Road widening scheme—for a distance of about a quarter of a mile, and which cost £150,000, a rather costly procedure.

About 1906 the Corporation were about to widen Walton Village and Cherry Lane to a width of 60 ft., when the writer of this paper made a suggestion that a better scheme would be to go on virgin land, and make a wider road at less cost, and with the practicable co-operation of the city engineer this road was made, the Corporation saving a sum of £15,000 on a length of one mile, as the previous scheme would have meant the destruction of a large amount of property, including several vested interests. The making of this road led up to the construction of the boulevard now known as Queen's Drive, which is over seven miles long, and extends from Walton on the north side of the city to Aigburth on the south side. This road was practically constructed on virgin soil, excepting in such places as absorbed existing roads, and although the scheme was only practically completed in 1914, the whole of the land practically throughout its length has been developed for residential housing. The cost of this road was £75,000, working out at an average of £10,000 per mile, the original width was 84 ft., a carriageway of 24 ft. being provided, but subsequent widenings have taken place varying from 20 ft. to 136 ft. The section of the road varies in form at the moment, having both single and twin roads, but eventually the section, no doubt, will be a uniform one. It forms an arterial road in the northern section, because it is intersected by the existing Manchester Road from Prescot, with the result that a large amount of traffic is deviated at Knotty Ash for the north-end docks; this traffic may be eventually dealt with in another way, diverting it from this section of the road, which was originally constructed for residential development, but for the time being it must carry this burden of traffic, which amounts to no less than 2,000,000 tons per annum.

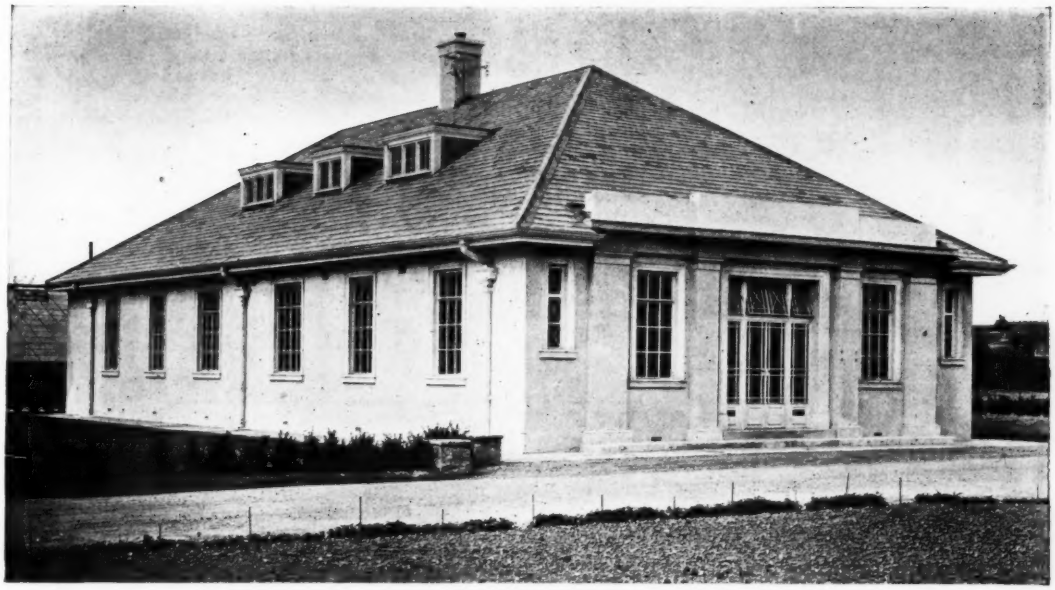
About this period, 1908, two new arterial roads were constructed, Walton Hall Avenue, 72 ft. in width (this opened out a vast part of land at the north end of the city), and Stanley Park Avenue, 80 ft. wide, which connected Stanley Park to the first completed section of Queen's Drive.

Prior to 1908 the Corporation possessed private Acts which gave them power to prescribe building and improvement lines where they wished to widen existing streets, subject to the payment of compensation; but in 1908 they obtained much wider powers enabling them to control the development of estates in such a way as to be able to define the main roads, which are to be 80 ft. in width, and to widen existing roads where necessary. The original Bill for this Act applied for much greater powers, and was, no doubt, a forerunner of the Housing and Town-Planning Act, 1909, which incorporated some of the powers the Corporation wished to obtain. This Act was passed during the period when the Right Honourable John Burns was the President of the Local Government Board. The 1908 Liverpool Corporation Act is now incorporated in the Corporation Act of 1921, which co-ordinates the whole of the Corporation Acts, by-laws, and regulations in one massive Act, which is divided into thirty-three parts, and contains no less than 566 pages.

After referring to the arterial roads, constructed or widened, subsequent to this Act, he referred to the Everton area, which is not served with a direct road to the centre of the city. A scheme for this is now in the process of construction, and a new road will eventually be taken from Byrom Street through the Prince Edwin Street area, and a traffic tunnel provided passing through to Mere Lane, Everton, and thence connected to Utting Avenue. A feature of this road is that it will lead to the clearing of slum areas, and tenement houses are now being erected in the vicinity of Prince Edwin Street, facing this 120-ft. road.

At the present moment there are two important projects with regard to road development in the outskirts : (1) the provision of a new outlet in the direction of Southport through the borough of Bootle; and the other, the provision of a new road which is called the Liverpool to Huddersfield Road, which will link up Liverpool with the South Lancashire towns, and across into the Yorkshire borders. This will form a continuation of the Walton Hall Avenue.

The proposal which is now before the committee in the House of Lords is to construct a tunnel under the Mersey of 44 ft. diameter, providing a roadway of 32 ft. wide, having two entrances from the Liverpool side at Whitechapel and Waterloo Road, and a single exit at Birkenhead, in the vicinity of Hamilton Square.



Office Building (75 feet by 36 feet), for Messrs. Lowe & Shawyer, Limited, The Nurseries, Uxbridge.

Arthur A. Keen, P.A.S.I.
Architect.

Messrs. Fassnidge & Son, Ltd., of Uxbridge.
Builders.

5 VERULAM BUILDINGS
GRAYS INN
LONDON WC 1

ARTHUR A. KEEN P.A.S.I.
ARCHITECT & SURVEYOR

Telephone: CHANCERY 7971

April 20.25.

F.Coleman Esq.
The ADAMITE Co.
Regent House Regent St. W.1.

Dear Sir

Re NEW OFFICES, COWLEY.
MIDDLESEX.

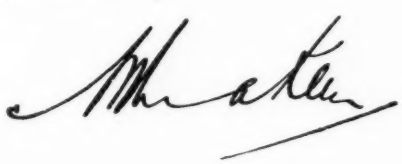
Herewith I am sending you a photo of the new offices I have just completed for Messrs Lowe & Shawyer, the great cut flower growers of The Nurseries UXBRIDGE.

On the exterior of this building, your ATLAS WHITE cement was exclusively used, both for plain and molded work. I wish to thank you most heartily for all the trouble you have taken, and the valuable information you have given me to ensure the unqualified success of my first actual experience with your material.

I am delighted with the result, and shall certainly use ATLAS WHITE on every possible future occasion.

You may make what use you like of this letter.
Again many thanks

Yours faithfully



R.I.B.A. Intermediate Examination

The intermediate examination, qualifying for registration as student R.I.B.A., was held in London from May 22 to 28, and in Leeds from May 22 to 27. Of the eighty-three candidates who presented themselves, forty-two passed and forty-one were relegated. The successful candidates were as follows :

Galbraith, T. M.
Long, A. E.
Greenwood, F.
Ecclestone, J. H.
Cohen, J.
Greenwood, H.
Hall, F. G. A.
Thompson, G. L.
Orfeur, R. F.
Ward, W. L.
Lee, J. W.
Parkes, F. E.
Troke, W. E.
Tassell, G. E.
Goodall, A. E. J.
Bowring, C. C.
Stott, J. F.
Ayerst, C. T.
Brown, R. N.
Buckingham, G. S.
Cadman, H. G.
Checkley, J. F. H.
Clark, J. H.
Dunn, R. R. A.
Evans-Vaughan, G. F.
Gale, J. E.
Harrison, G. S.
Hartley, W. D.
Hunt, V. C.
Jopling, E. L.
Liddle, E. J.
Lyon, N. A.
Mount, E. C.
Payton, A. G. R.
Rushworth, S. H.
Schofield, J. A.
Shaw, T. R.
Skurray, T. E. D.
Slade, A.
Whinney, H. C. D.
Wilkie, D. A.
Wood, N. B.

Royal Sanitary Institute Congress

Nearly 900 official delegates, representing Government departments, the oversea Dominions and Colonies, foreign countries, and over 400 British sanitary authorities and learned societies, are attending the thirty-sixth congress of the Royal Sanitary Institute at Edinburgh.

Sir John Gilmour, Secretary for Scotland, in his opening address, after a reference to the development of public-health work in Scotland, said that the tendency in recent years had been more and more to minister to the individual as the prime unit in the health of the nation.

It was unfortunate that precise information was not obtainable with regard to the demoralization, ill-health, and mortality that could be directly attributed to life in the slums and in houses below the datum line of habitability. He felt certain that if such information could be condensed into a comprehensible statement of fact the nation would receive a shock the like of which it had rarely before experienced. Whereas the estimate of the Scottish Royal Commission on Housing in 1917 of the deficiency on the existing standard of housing was 121,430 houses, that of the central department at the end of 1924 was 150,000. At the conclusion of six years, therefore, notwithstanding strenuous efforts by Government departments and local authorities, the situation was getting worse. This state of matters should but spur them on to renewed efforts. They must free their minds from preconceived notions that the only materials of which houses could be built were brick and stone, and they must be prepared to investigate fully and without prejudice the possibilities of other materials and of other methods of building than those in operation in the past.

A.A. Scholarships and Prizes

Mr. H. S. Goodhart (president), presiding at the annual prizing-giving and exhibition of work by students in the Architectural Association and School of Architecture, Bedford Square, W.C., stated that in the past year the school had been very successful, and he trusted that in the coming year the number of students would be even larger. He mentioned that two new scholarships of £1,000 each had been given by Sir Walter Lawrence and Mr. F. G. Minter.

Lord Eustace Percy, President of the Board of Education, distributed the prizes, and in his subsequent address to the students congratulated the Association and the School of Architecture upon the success which had attended their work, and wished them good fortune. In addition, he wanted to say that the whole question of education in the arts was one which needed very careful consideration. The strength of the movement for education in the arts was increasing, especially in the department of architecture. During the last few years the architect had become a very important person. He had shared in the question of building and town planning, and was becoming more and more recognized as the chief partner in the solution of that problem. There was in the whole question of education in the arts, and in our present somewhat haphazard provision for such education, ample food for very serious consideration. That consideration was being given to it, and he could only hope that he would receive advice, and impetus, and stimulation from those who were competent to form an opinion on it.

Following is a list of the awards :—

Public School Entrance Scholarship.

Value £75 12s. : David Booth (Christ's Hospital).

Open Entrance Scholarship.

Value £75 12s. : Robert D. Scott (School of Art, Watford).

A. A. Essay Prize.

No competition.

First Year Course.

First prize, "Howard Colls" Travelling Studentship (value £15 15s.) : D. R. Burles; second prize, books (value £5 5s.) : H. R. Thompson; art subjects, books (value £3 3s.) : E. Playne; general progress, books (value £2 2s.) : H. M. Peskett; scholarship tenable for one year in Second Year Course (value £63) : D. R. Burles.

Second Year Course.

First prize, A.A. Travelling Studentship (value £26 5s.) : H. H. Goldsmith; second prize, books (value £10 10s.) : G. I. C. Highet; art subjects, books (value £5 5s.) : Miss B. Scott; general progress, books (value £3 3s.) : J. Buchanan.

Third Year Course.

Holloway Scholarship, tenable for two years (value £300) : J. Breakwell; first prize, "Henry Florence" Travelling Studentship (value £50) : W. R. Brinton; second prize, books (value £21) : R. P. Cummings; third prize, books (value £15 15s.) : J. V. Hamilton; general progress, books (value £5 5s.) : Dyce Saunders; "Alec Stanhope Forbes" prize for best colour work during the year, books (value £5) : J. Breakwell; scholarship, tenable for one year in Fourth Year Course (value £42) : C. W. Sully.

Fourth and Fifth Years.

Design, books, (value £10 10s.) : R. M. Smith; town-planning, books (value £10 10s.) ; Miss D. Lewis; construction, books (value £10 10s.) : A. E. Cameron; colour books (value £10 10s.) : Miss M. R. F. Ellis.

Architectural Association Diploma.

On satisfactory completion of five years' School Course, and a period of six months' office experience : A. M. Allen, R. G. Booth, H. Braddock, A. E. Cameron, P. Cutbush, B. M. Flegg, G. G. Grant, F. E. Green, Miss A. F. Jones, Miss D. A. Lewis, H. J. Louw, D. F. Martin-Smith, Miss E. Meikle, A. G. Morris, F. Roscoe (Junr.), Z. Sirotkin, Miss A. Sleigh, R. M. Smith, V. J. Wenning, J. W. Wood.

The following students have qualified for the Diploma subject to completion of six months' office experience : Miss E. Moseley, Miss M. F. R. Ellis, F. L. Preston, R. M. Walker.

Medal presented annually by the Société des Architectes Diplomes par le Gouvernement, Paris, to the best Diploma student of the year : E. Wilmsley Lewis.

R.I.B.A. "Henry Jarvis" Scholarship.

Value £50 : not awarded.

Architectural Association Measured Drawing Prize.

For the best set of measured drawings submitted in the school (value £10 10s. prize divided) : W. R. Brinton, W. V. Trubshawe, H. J. Louw. Second prize (value £5 5s., prize divided) : C. Green, Miss M. L. Bennett.

Royal West of England Academy School of Architecture (affiliated with the Architectural Association).

Prize in design, value £5 5s., awarded to Mr. J. H. Bourne.

The L.C.C. and the Housing Problem

The Housing Committee of the London County Council state in a report that they share with members of the Council generally a feeling of disappointment that notwithstanding the efforts made, and a lavish provision of money during the past few years, it has not been possible to expedite the delivery of houses. They are of opinion that the approval of the Council should be given to the adoption of new methods of house construction as an alternative or addition to the use of bricks, in order that a more rapid solution of the housing problem may be secured. A recommendation is made to the Council that the use of new methods of house construction dealt with in the reports of the Moir Committee be approved for such numbers of buildings and on such parts of the housing estates as may be determined by the Housing Committee, subject to the expenditure ranking for State aid with the approval of the Minister of Health.

Considerable time must be spent, remarks the report, on the construction of roads and sewers before building can be begun, and, in order to ensure the earliest possible results in the production of houses, the committee think it necessary for the Council to agree to the provision, as and when opportunity affords, of such new types of houses as in the circumstances, upon examination by the Council's technical advisers and with the approval of the Minister of Health, may appear to be worthy of use. Speaking generally, the committee would not wish to depart from the methods referred to in the reports of the Moir Committee, and they remind the Council that the three interim reports issued by that committee deal with various methods of construction, as follows :

(1) Houses faced with steel plates; (2) concrete houses in various forms; (3) houses with a steel framework and various kinds of infilling or external casings; (4) (*a*) houses of normal timber construction built entirely of timber; (*b*) houses with timber framing and infilling of various other materials; (5) schemes where factory construction may be possible in suitable units and the work of assembly carried out on the site; (6) various forms of clay construction; (7) substitutes for particular materials—e.g. plaster, and for roofing materials.

The Week's News

New Swimming Baths for East Ham.

The East Ham Borough Council propose to erect new swimming baths on a site adjoining the present baths.

More Houses for Feltham.

Fifty more houses are to be built by the Feltham, Middlesex, Council.

Proposed Extension of Regent Street Polytechnic.

A £250,000 scheme for extending the Regent Street Polytechnic has been prepared by the governors.

More Houses for Surbiton.

Another fifty houses, including twelve flats, are being built by the Surbiton Urban District Council.

Housing at Barnsley.

The Barnsley Town Council propose to erect 400 houses during the present year.

Mr. W. H. Hattrell's Estate.

Mr. Walter Herbert Hattrell (53), of Stoke House, near Coventry, architect (net personalty, £3,230), £11,795.

New Northwich School Proposed.

The County Plans and Buildings Sub-Committee have directed the architect to report on the purchase of a site in Spencer Street, Northwich, for the provision of a central school.

Warwick Priory.

The Warwick Corporation have been asked to support efforts to secure the preservation of Warwick Priory, which is threatened with demolition.

A London Church to be Demolished.

The site of the church of St. Katharine Coleman in Fenchurch Street has been acquired by Lloyd's Register of Shipping. The church will be pulled down.

Two Thousand Houses for Hendon.

The Hendon Urban District Council estimate that about 2,000 houses will be erected in their district during the next fifteen months.

Housing at Portsmouth.

The Portsmouth Corporation have prepared a scheme for erecting dwellings in order to relieve the congestion in the slums.

More Houses for Goole.

The Goole Rural District Council have received sanction from the Ministry of Health for the building of twenty-four houses at Snaith and Cowick.

St. Asaph's Sanitary Scheme.

St. Asaph (Flint) Rural District Council have approved plans for reconstructing St. Asaph sanitary scheme at a cost of £12,000.

New Pipe Subway for London.

At a cost of £25,000 a pipe subway is to be constructed by the City Corporation from St. Martin's-le-Grand to Gresham Street.

Bomb at Waterloo Bridge.

The Improvements Committee of the London County Council report that during process of excavation at one of the piers for the large span of the temporary Waterloo Bridge an unexploded German bomb was found and handed to the police.

The Royal Gallery of the Palace of Westminster.

Earl Iveagh has offered to complete the decoration of the Royal Gallery at the Palace of Westminster at a cost of not less than £20,000. It is understood says the report of a select committee, that Lord Iveagh would be anxious to undertake the whole of the scheme of decoration, which would harmonize with the scheme of the war memorial.

Barnsley Mining College.

At the last meeting of the Barnsley Education Committee Messrs. Briggs and Thorneley, architects, of Liverpool, submitted sketch plans for the proposed new technical institute and mining college in Church Street. A special sub-committee was appointed to consider the possibility of making the new building a three-story instead of a four-story one.

London Widening Schemes.

The Corporation of the City of London have adopted a scheme for widening Bishopsgate to 60 ft., at an estimated cost of £141,113, and propose to carry it out as opportunities occur, subject to the London County Council contributing one-half of the net expenses. They are also proposing to complete the widening of Godliman Street at a cost of £28,200.

Manchester's New Housing Estate.

A report on the lay-out of an estate of 58½ acres net of building land at Moston, which the Manchester Corporation has acquired, was approved at a meeting of the Housing Committee. The estate adjoins Broadway, the new arterial road running from Failsworth through Moston towards Chadderton. It is proposed to build upon it about 600 houses and forty shops.

Waterloo Bridge.

The Franco-British Union of Architects, at its annual general meeting in Paris, passed a resolution to the effect that a letter should be addressed to the R.I.B.A., by which the union should express its profound regret at the proposed demolition of Waterloo Bridge, and expressing the opinion that it is desirable to take all possible measures to maintain and safeguard this historic monument, which is of great artistic value.

New British Dominion Offices for New York.

Plans have been prepared by Mr. Alfred G. Bossom for a British Empire building to house all the consulates of the Dominions and Colonies of the British Empire in New York. Mr. Bossom has been in England negotiating with the various high commissioners to bring the scheme to completion. The consulates at present are scattered all over New York, and the idea is to centralize them under one roof in a skyscraper.

Bungalow Town Suggested at Bolt Head, Devon.

Efforts are being made to save another beauty spot—the five miles of coast between Bolt Head and Bolt Tail, South Devon—from the builders. Plans are in existence for a scheme of bungalows in the district, and there is talk of a new seaside resort springing up there. To prevent the land being exploited a local movement has been started to buy both headlands and the foreshore between, amounting in all to 1,600 acres, and to hand it over to the National Trust. Many people regard the land in question as the most beautiful stretch of South Devon coastline.

Liverpool Cathedral.

To mark the first anniversary of the consecration of Liverpool Cathedral a start was made with the next stage of the building operations—the erection of the central space and the two western transepts. The construction of the central space and the transepts will afford a still clearer idea of the ultimate magnificent proportions of the cathedral, and will mark the completion of two-thirds of the building, the nave remaining to be added and the erection of the tower to be undertaken. The central space is to be carried to a height of 167 ft. above floor level. It is estimated that the portion of the work now to be begun will occupy from six to seven years.

Strand Widening Scheme.

The London County Council are seeking powers from Parliament to acquire compulsorily the principal interests in the properties on the south side of the Strand between George Court and Villiers Street. Not more than £50,000 is likely to be spent in this connection in the present financial year. A report of the Improvements Committee on Strand widening states that for the acquisition of the property £400,000 is required; while a projected widening of Old Street and Kingsland Road will cost £100,000. For the improvement of Upper Richmond Road, Putney, £28,500 is to be spent, and upon the construction of the Bromley Road by-pass a further amount of £12,500. Sanction is asked from the Council for the expenditure named.

List of Competitions Open

Date of Delivery.	COMPETITION.
August 10	Designs are invited from architects practising in Coventry for a new ward of the pavilion type. The designs will be adjudged by an architect approved by the Secretary of the Coventry Society of Architects. Apply, Miss Hooper, Secretary, Coventry and Warwickshire Hospital. (Banned by the R.I.B.A.)
Sept. 1	High bridge over Copenhagen Harbour. Three prizes to the value of Kroner 35,000. Apply City Engineer's Office, Town Hall, Copenhagen. Deposit of Kroner 100 (returnable).
Sept. 5	Proposed new out-patient and casualty department for the Board of Management of the Wolverhampton and Staffordshire Hospital. Assessor, Mr. T. R. Milburn, F.R.I.B.A. Premiums, £200, £150, and £100. Apply, with deposit of £1 1s., to Mr. W. H. Harper, House Governor and Secretary, Wolverhampton and Staffordshire Hospital.
Oct. 1	The Municipality of Drammen, in Norway, invites Norwegian and foreign architects and engineers to compete for the construction of a new bridge across the river of Drammen (Drammenselven) between the two neighbourhoods Bragernæs and Strömsö. Judging Committee: Professor Otto Linton, Stockholm, appointed by the Norwegian Engineers' Association; Mr. Arne Eide, architect, Oslo, appointed by the Norwegian Architects' Association; Mr. M. E. N. Saxegaard, district-chief, appointed by the Norwegian State Railways; Mr. Olaf Stang, engineer-in-chief, Oslo; Mr. U. Lied, chief physician, chairman, appointed by the Municipality of Drammen; Mr. Otto K. Römcke, wholesale merchant, Drammen; and Mr. A. Heitmann Arntsen, secretary, Drammen. Mr. Lied and Mr. Saxegaard are respectively president and vice-president of the committee. The following prizes are offered for the best designs: First prize, 10,000 Norwegian crowns; second prize, 8,000 Norwegian crowns; third prize, 6,000 Norwegian crowns. Apply Bureau of the Government Engineer (Statsingeniörkontoret) at Drammen. Deposit 40 Norwegian crowns.
Oct. 8	Proposed Fire and Police Station at Marlborough Crescent, Newcastle-upon-Tyne. Premiums: £500, £300, and £100. Assessor, Mr. Percy S. Worthington, D.Litt., M.A., F.R.I.B.A Apply, with deposit of £2 2s., to Mr. A. M. Oliver, Town Clerk, Town Hall, Newcastle-upon-Tyne, by July 4.
Dec. 31	The Argentine Government offer prizes of 10,000, 5,000, 4,000, 3,000, and 2,000 Argentine gold pesos for the best architectural designs for a National Institute for the Blind. Apply Enquiry Room, Department of Overseas Trade, 35 Old Queen Street, Westminster, S.W.1.
June 30, 1926.	Competitive designs are invited by the Ministry of Wakfs for the rebuilding of the Mosque of Amrou. Prizes of £2,500, £1,000, and £500 are offered for approved projects. Those wishing to submit designs should apply before June 30, 1926, to H.E. the Under-Secretary of State to the Ministry of Wakfs, Cairo (cables "Wakfs Cairo"), who will forward details, conditions, etc. The final date for acceptance of proposals is January 1, 1927.
No Date.	H.M. Senior Trade Commissioner at Johannesburg has forwarded a copy of minutes received from the clerk to the Municipal Council of Pretoria concerning the erection of a new Town Hall in that city. It is stated in the minutes that competitive designs will be invited at a cost (first estimate) of about £200,000. British firms interested in this announcement can consult the minutes referred to on application to the Department of Overseas Trade, 35 Old Queen Street, London, S.W.1.
No Date	A new secondary school for girls on the Thames House site for the Worcester City Council, at an estimated cost of £32,000. The competition is limited to local architects. Premiums, fifty guineas and twenty-five guineas.

Competition News

The Ottawa War Memorial Competition.

The names of the seven successful architects in the first stage of the national competition for the war memorial to be erected at Ottawa, for which Parliament has appropriated £20,000, are announced, and include four British, one American, and two Canadian firms. The British architects are: Mr. T. A. Lodge, of Bedford Square, London (with Mr. Rosslyn, sculptor); Mr. Vernon March, of Farnborough, Kent; Mr. F. Brook Hitch, of Queen's Terrace, London; and Mr. Wm. J. Smith, Crosshill, Glasgow.

British Architect's Success in Malta.

Mr. James Burford, who (as announced in our last issue), with Mr. S. Roland Pierce, won the first prize of £1,000 in the international competition for laying out the area immediately outside Valetta, was formerly head studio master at the London University School of Architecture.

Obituary

The late Mr. F. W. Tarring, F.R.I.B.A.

A correspondent informs us that Mr. F. W. Tarring, whose death was announced in our last issue, was a Fellow of the R.I.B.A. for fifty years. Although he did not himself practise very much, his father, Mr. John Tarring, had a very large practice. The latter is believed to be the first architect to persuade Congregationalists and Baptists to build Gothic places of worship, and was the architect for the Farringdon Memorial Hall, and a great many dissenting places of worship round London and various parts of the country. Mr. F. W. Tarring, in conjunction with Mr. Stark Wilkinson, his partner, was responsible for the original design of the "Three Nuns," Aldgate, and this firm were the architects for Messrs. Doulton's premises on the Albert Embankment.

Trade and Craft

"Korkoid" Flooring for Liverpool Maternity Home.

"Korkoid" patent flooring is to be laid in the Liverpool Maternity Home to an extent of 700–800 square yards. The "Korkoid" will be composed of a layer of specially prepared cork plates ¼ in. thick, surmounted by a top layer of best quality thick linoleum; the whole being securely cemented down to the concrete base under. The resultant finished floor is claimed to be extremely resilient, warm, comfortable to the tread, and hard wearing. The building, which is being erected from the designs of Mr. Gilbert Fraser, F.R.I.B.A., was illustrated in our issue for June 24. "Korkoid" flooring is manufactured by the Korkoid and Ruboleum Tile Co., 13–17 Summerfield Street, Glasgow.

The Decoration of the New Headquarters of the British Medical Association.

The reconstruction and decoration of the library, the members' lounge, and the conference chamber of the new headquarters of the British Medical Association, Tavistock Square, London, opened recently by the King and Queen, were carried out by Hamptons and Sons, Ltd., under the direction of Sir Edwin Lutyens, R.A.

The whole of the mahogany panelling and fitments of the great library were dismantled from the B.M.A.'s old building in Agar Street, Strand, and adapted to their present position in the new building. The greater part of the bookcases lining the walls, also the galleries and concealed doorways giving access to adjoining rooms, etc., were made of the old material. The ceiling and the beam casings are of finely modelled fibrous plaster, painted to an old vellum colour. The style employed is based on the classic Doric order, the wide pilaster panels and columns being all wrought in finely figured Spanish mahogany, finished with a high polish.

The conference chamber, situated under the great hall, is panelled to one-third the height of the room with oak wainscoting removed from Agar Street, adapted and refixed in its present position. The series of panels running round the entire length and breadth are emblazoned with the names of distinguished members, past and present, of the B.M.A. These panels are divided by carved pilasters, the subjects of which are emblematic of the medical profession.

The seats and desks are on raised platforms and arranged in such a manner as to give easy access without disturbing other members. This raised daïs, with its central bench for the chairman of the council and the officers of the Society, is an imposing feature of the chamber. The whole of the woodwork is finished in the natural colour of the oak, and wax-polished. The seats and backs of the chairs and the tops of the desks are covered in a light-green morocco leather, finished with tooled edgings. The paintwork is an old ivory colour highly glossed enamel, relieved by white on all the window-frames and ceiling panels.

The members' lounge is decorated to the designs of Sir Edwin Lutyens, R.A., and carried out entirely in plaster. The mouldings forming the panelling of the walls and ceiling have been specially run *in situ*. The paintwork is in two shades of colour, giving the mottled appearance of old vellum. It is finished with a highly glossed surface, and the scheme tied together by a black skirting. In this room and throughout the building the furniture, consisting of lounge chairs, settees, elbow chairs, tables, carpets, and blinds, has been specially designed and executed by Hamptons and Sons, Ltd., under the direction of Sir Edwin Lutyens, R.A.

The building was illustrated in our issue for July 15.

Dr. Oscar Faber's Tests on "Ferrocrete."

The report on the practical tests on rapid-hardening "Ferrocrete" Portland cement, made by Dr. Oscar Faber, O.B.E., D.Sc., M.Inst.C.E., for the Cement Marketing Co., Ltd., has now been issued in book form. It was decided that the tests should not only be laboratory tests, which are, of course, open to some suspicion by practical users of cement, on the grounds that laboratory tests do not represent practical conditions. Therefore in addition to the usual tensile and crushing tests of the cement and cement mortar and of concrete cubes made in the laboratory, a series of test beams were designed of reinforced concrete 16 ft. long, which were all reinforced identically so that the only difference between them was that half were made with ordinary cement and half were made with the special quick-hardening cement. These were made by practical workmen in the establishment of a firm of reinforced concrete contractors under practical conditions. Cubes

of the actual concrete used in these test beams were also made up, and both the test beams and the cubes were then sent to a laboratory for testing purposes only, as undoubtedly the actual testing work is more accurately done in the laboratory and does not in any way detract from the practical conditions under which these test specimens were made. In his conclusions Dr. Oscar Faber says : "The results, to my mind, indicate that rapid-hardening 'Ferrocrete' is a product of very great practical importance indeed. Not only will it have special importance in cases where an early strength is required—for example, in the case of road construction, special surface finishes requiring to be subjected to wear at an early date—in places where early removal of centering and temporary supports is required, as well as where ferro-concrete piles are required to be driven at an early date, but the greatly increased strength of the material, even at later dates, should justify substantially greater working stresses with this improved material, and so make it specially useful and economical for reinforced concrete columns, beams, and structures generally. Its use for this purpose will, of course, depend to some extent on its increased cost, and as I understand that this is quite moderate, I see many places where its use would be entirely justified. It will, of course, be important to get local authorities to make provision for higher working stresses for this stronger material before full advantage of its valuable properties can be taken in many structures subject to such regulations, and this is a matter which ought to have the prompt attention of scientific bodies." A copy of the booklet giving the results and details of the tests in full can be obtained from the Company at Portland House, Tothill Street, Westminster, S.W.1.

Central Heating with Mex Oil Fuel.

Messrs. Shell-Mex, Ltd., have just issued an instructive booklet on central heating with Mex oil fuel. The experiments conducted during the past three years by the technical staff of the company, in co-operation with oil-burner manufacturers and heating engineers, have resulted in the design of a British plant which can be applied to any ordinary type of central-heating boiler, and which, it is claimed, is sufficiently simple and reliable to be left unattended for long periods without the risk of a breakdown. Briefly the system of working is as follows : An air blast at low pressure provided by a small electrically-driven fan operates a rotary oil atomiser (or rotamisor), which converts the liquid fuel into an oil mist. The oil mist is intermingled with the correct proportion of air and passes forward into the furnace of the boiler. It is claimed that perfectly smokeless combustion is obtained although the consumption of oil may be varied from a quarter of a gallon to four gallons an hour. Thus, the system admits of flexibility, and should be capable of dealing with any fluctuations in demand likely to be experienced in this country. An automatic valve, by means of which the oil feed is regulated according to the temperature of the outgoing water, is fitted to the oil supply pipe. After the burner is lit in the morning the temperature of the water rapidly rises until a predetermined point is reached, say 180 deg. F. This figure can be varied by simply setting a pointer against the desired temperature as indicated on a graduated scale. On reaching the set temperature, the automatic valve comes into operation, and the oil supply is cut down until the burner is passing just sufficient oil to maintain the water temperature at the determined degree. Should the temperature of the water rise owing to radiators being shut off or changes in atmospheric conditions, the valve automatically reduces the oil supply, and conversely, should the temperature of the water fall below the critical point, the valve immediately increases the oil supply until the point of balance is again reached. It is thus possible to meet the widest variations in the demands on the plant without the necessity for an attendant. Although the firm do not manufacture oil-burning plant, they maintain a special department to advise interested parties on the selection of the most suitable oil-burning apparatus for each individual requirement. The services of this department are always available in an advisory capacity, free of charge to actual and prospective customers. The services of this department are also available for owners of central-heating plants who are contemplating conversion to oil fuel. A copy of the booklet can be obtained from Messrs. Shell-Mex, Ltd., Shell Corner, Kingsway, London, W.C.2.

New Building Contracts.

Messrs. W. H. Gaze and Sons, Ltd., of 10 Conduit Street, W.1, and Kingston-on-Thames, have secured the following contracts : London Hospital, out-patients' department and residents' hostel (Mr. J. T. Oatley, Licentiate R.I.B.A., resident architect) ; Illustrated London News and Sketch, Ltd., 16 Essex Street, new offices (Messrs. William and Edward Hunt, architects).

Westminster Bank

The directors of Westminster Bank Limited have declared an interim dividend of 10 per cent. for the half-year ended June 30 on the £20 shares, and the maximum dividend of 6¼ per cent. on the £1 shares for the same period. The dividends, 10s. per share and 1s. 3d. per share respectively (both less income tax) will be payable on August 1.

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